

HIGHER EDUCATION-SCHOOL RELATIONSHIPS IN REGIONAL DISTANCE
EDUCATION NETWORKS

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Peter D. Nordgren

You will see light in the darkness
You will make some sense of this
when you've made your secret journey

- Sumner

ABSTRACT

This study examines the relationships among higher education institutions and K-12 schools within three regional distance education networks in Wisconsin. It considers how well these networks serve as a means to develop and sustain collaborative initiatives that meet the purposes of both types of member organizations. In pursuing this question, it explores the extent to which these networks enable the development of a more seamless K-16 education system.

The study uses a grounded theory methodology and a theoretical framework integrating elements of the collective strategy theory of Astley and Fombrun (1983) with the processes of interorganizational relationships of Ring and Van de Ven (1994) and the sensemaking concepts of Weick (1995, 2001).

Results of the study include the finding that the networks studied provide a valuable educational service, but significant institutional and interinstitutional challenges prevent them from achieving the higher education-school collaboration which was a key part of their original vision. Limited new or unique collaborative higher education-school programming has developed within the network environments. Scheduling and calendar issues, lack of close connection to institutional priorities, and an ambiguous technology environment were significant factors in limiting collaboration. Technical colleges proved more effective collaborators than other higher education partners. Opportunities may exist to replicate those successful initiatives identified in the study, but it is more likely that environmental change involving technology will determine the future of these networks.

The study concludes with a discussion of implications for distance education

leadership for improvement of interorganizational collaboration, and implications for future researchers in use of the collective strategy framework in studying relationships among organizations in the nonprofit sector.

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CHAPTER ONE

Introduction

1. The regional distance education network

In the decades of the 1980s and 1990s, distance education became a familiar term within the education community, and within much of American society. This form of teaching and learning has grown rapidly in recent years in education worldwide (Meyer, 2002). The Industrial Revolution model of the school – a place where one teacher can teach many students at the same time, thus leveraging the cost of salary and other necessary resources – has been extended to create learning environments in which one teacher can teach many students not in the same place, and sometimes not at the same time. Improvements in the quality, availability, and affordability of communication technologies have advanced this process significantly in the last two decades. The changes created by this new schooling environment are now beginning to affect education at all levels. Nearly every college, school, and educational organization has at least considered involvement in distance education. Many have implemented active programs to serve learners at a distance, or to receive instruction for their own students from a distant source.

The decades of the 1980s and 1990s were also a period in which significant pressures were placed on educational organizations to become more cost-effective and accountable for results. Educators responded to these pressures in a variety of ways. Collaboration has been one of the more broadly applied approaches to managing costs and leveraging resources (Reisner, 2000). Pooling resources to achieve a shared goal, or

to acquire a mutually needed asset, has been a favored strategy among those who fund and regulate education. Educators have responded to pressures to achieve economies of scale, and visions of what can be achieved through collective initiatives, with the creation of some broad interorganizational relationships. Some of these initiatives involve multiple levels of education – colleges and universities, technical and community colleges, K-12 school districts, occasionally private colleges or schools. One of the functional areas in which collaborative interorganizational relationships have developed is distance education.

A broad and complex variety of communication systems for distance education have emerged in recent years. One commonly used form can be identified as a dedicated telecommunications system used to provide learning at a distance through interactive audio and video within a defined region. This is the form of system which I will identify throughout this study as a “regional distance education network.” The network is "dedicated" in the sense that it is leased exclusively or owned by the educational institutions using it. This distinguishes the regional distance education network from systems using public telephone or Internet communication.

The regional distance education network provides two-way, interactive audio and video as its primary communication method. Computer networking, fax, voice, and other systems may also be available and used in conjunction with the distance education network, but are not the primary teaching/learning medium.

Networks serve a particular region, which is less than statewide. This may be an area of several counties, or the area served by a regional educational service unit, or a technical college district. Regional distance education networks are used for interactive

video instruction, professional development, administrative videoconferencing, and other applications by schools, colleges, universities, and other educational organizations.

In 2009, regional distance education networks were operating in many states, including Florida, Iowa, Kansas, Michigan, Minnesota, Oregon, and Texas. In my home state of Wisconsin, the Wisconsin Association of Distance Education Networks lists 32 networks meeting this definition within the state on its website (Wisconsin Association of Distance Education Networks, 2009).

Regional distance education networks have emerged from advances in communication technologies, coupled with a public willingness to invest in these technologies for educational purposes (Buckland & Dye, 1991). Costs, however, remain significant for educational institutions. Participation in a distance education network usually requires a substantial investment by the institution. Member organizations may pay \$20-30,000 per year for access to a distance education network, often more than is invested in any other instructional technology except personal computers. Technology costs represent only one element in the cost of distance delivery; program development, marketing, delivery, and student support are other substantial costs in any effective distance education program (Moore & Kearsley, 2005).

Due to these high costs and the need for geographical distribution of sites, relatively few of these networks are operated by single institutions. It is more common to find consortial efforts in which a number of educational organizations pool resources to establish a network, and then use it to share and disseminate educational programs (Moran & Mugridge, 1993). In many cases, these distance education networks are not exclusively K-12, technical, or higher education systems. Instead, they are consortia involving several

levels of education, with most of the educational institutions within a geographic area as members. Network membership often consists of a number of K-12 schools, one or more technical or community colleges, and one or more universities. Sometimes regional educational service units, libraries, or special schools also are members.

Regional distance education networks can be more than just electronic communication systems. Networks usually have boards for governance, with board members representing the member educational organizations of the network. These boards employ network directors to administer network activities. Committees carry out work typically involving program planning, scheduling, finance, and technical operations.

2. The distance education landscape: its positives and problems

Distance education programs have existed for more than a century, with roots in correspondence instruction offered in Europe as early as 1840 (Moore & Kearsley, 2005). As interest in distance education has grown within society and within the education community, the positive and negative aspects of distance education programs have been examined. Throughout its history two underlying purposes have generally been given for the establishment of distance education programs:

- Increasing access for learners. Provision of educational opportunities to geographically dispersed or placebound learners, improving their access to education. Beyond participation in a class, such access may include the ability to communicate with guest experts or use electronic libraries and media. Better access is important to many different types of learners--placebound undergraduates, working professionals in rural areas, individuals with limited

time to commute to classes, learners with disabilities (Verduin & Clark, 1991).

- Aggregating learners. Joining of geographically dispersed small groups or individuals together with a teacher and resources, thereby achieving an economy of scale which permits delivery of courses and programs that are not otherwise economically viable. This type of use also increases access for learners to courses that would not be offered due to low enrollment in a given location (Moore & Kearsley, 2005).

While these positive purposes are commonly given, there are other, less explicit positives that accrue to institutions involved in distance education. Being seen as a forward-thinking, technologically advanced institution can provide public relations and political benefits. Some also argue that technology is a central tool for reform in education, though this position is not widely held among more thoughtful observers (Van Dusen, 2000).

The most commonly identified concern about distance education is with its instructional effectiveness. This concern has largely been set aside through numerous comparative studies. These find consistently that distance education courses, regardless of technology choice, are on the aggregate no more, and no less, effective than traditional classroom instruction or other teaching/learning methodologies. Russell (1999) has provided a compendium of 355 published research reports, summaries and papers that reach this conclusion. Differences in student outcomes are not attributable to the communication system, but rather are due to differences in instructional design, content presentation, and learner activities.

Concerns about cost-effectiveness are often expressed about distance education initiatives (Duning, Van Kekerix, & Zaborowski, 1993). The decision to invest in telecommunication services, outreach managers, and classroom hardware can be a decision to not invest in more traditional forms of instruction. Distance education programs require substantial resources that are priced and paid differently from classroom instruction. Often there is not universal agreement on adopting this strategic direction.

Distance learning initiatives can have a variety of other impacts on their participants. They generate questions about changes in the nature of the teaching profession, workload and equity, and the ability of an institution to ensure quality in its programs (Eaton, 2001). Concerns also are raised about challenges to academic freedom in the form of ownership questions about recordings of class sessions or electronically published materials, or the right to electronically publish (O'Neil, 2001). New programs often generate internal political debates about the choice to invest resources in distance education programs versus other instructional needs or institutional goals.

On a broader scale, all educational organizations face a changing landscape. For-profit companies and market-focused public and private institutions are emerging with a different business plan, culture, and rules from those of most existing educators (Van Dusen, 2000). Geographic separation no longer prevents competition – even between sister institutions. Despite these challenges, the broad growth of distance education programs demonstrates that many educators are willing to accommodate difficulties and experience change to provide more opportunities for learners.

3. Regional distance education networks as a research interest

While changes in technology have opened the door for the expansion of distance education initiatives, research in this field continues to be emergent and somewhat fragmented. A great deal of the research related to distance education has traditionally focused on questions of curricular effectiveness, technology effectiveness, or student support effectiveness (Berge & Mrozowski, 2001; Sherry, 1996). Less attention has been given to effectiveness in the structure or management of distance education systems (Beaudoin, 2003; Kovel-Jarboe, 1990), or to ways distance education initiatives can be effectively implemented and integrated within educational institutions.

Collaborative efforts in distance education are often discussed as both beneficial and challenging. Wagner (1995, p. 26), in describing identified success factors for distance education programs, suggested "one of the greatest challenges—and one of the greatest strengths—of distance education comes from inter-institutional partnerships. These partnerships provide the basis for the exchange of information, expertise, and instructional applications to the benefit of all participants. It is useful that the roles and responsibilities of partners be delineated and formalized through some articulation process so that expectations of all partners and participants are clear." Duning, Van Kekerix, & Zaborowski (1993, p.32) further underscore the significance of relationships in distance education programs, stating that "managers of telecommunications-based education manage relationships, not equipment."

Beyond the element of collaboration, a number of other characteristics of regional distance education networks make them interesting from a research perspective. They

represent significant investments by their members in a new way of carrying out their purposes. They are part of a larger movement to use technology to make education more accessible to learners. They represent a particular technology choice from among a number of options available to educators. They have formed around a shared cost model for telecommunications which assumes high cost. As with any distance learning program, issues of instructional design, learner needs, marketing, geographic relationships, and “fit” within the larger institution(s) are key elements and matters of interest. Beyond these characteristics, however, the membership of institutions from different categories of educational institutions makes them of special interest at this time. In recent decades, K-16 collaboration has been proposed as a way of reforming education, making it more effective and efficient (Reisner, 2000). This collaboration would create a more seamless transition for students from high school education to higher education. Within regional distance education networks, educators are finding out whether K-16 collaboration in one form of education is possible and beneficial.

The study reported in this dissertation was designed to help answer this question. It posed this general research question: how well do regional distance education networks serve as a means to develop and sustain collaborative initiatives that meet the purposes of higher education and K-12 members?

The study used a qualitative grounded theory methodology to examine data from three regional distance education networks in Wisconsin, selected for geographical and socioeconomic diversity as well as longevity in operation. Sources of data included interviews of selected institutional representatives within the networks, minutes of network governance and programming groups, and long range or strategic plans.

Outcomes of the data analysis are presented in three case studies, a cross-case analysis, and statements of findings and implications.

An appropriate use of qualitative study results is the development and improvement of theory (Yin, 1994). The findings and recommendations of this study may contribute to the theory of management of distance learning organizations. The results should be of interest to the many member institutions of distance education networks, as well as state education agencies, educational communications agencies, and others involved in the funding, management, and delivery of distance learning programs through regional distance education networks.

CHAPTER TWO

Literature and Related Studies

To ground the initial approach to the study, a broad selection of literature has been examined to help create an integrative research framework. This examination is based in organization theory and in studies and concepts that help explain interorganizational relationships. Particular attention is given to two factors which have great impact on the communications and understandings among organizations – the process of sensemaking, and the role of trust. Within the extremely broad literature of education, a more focused approach is used to identify critical factors in collaboration between and among organizations in different levels of education. Special attention is given to literature of distance education, and in particular to relatively recent research in this field. Growth in distance education activities worldwide has produced similar growth in research focusing on its effective implementation and practice. Changes in distance education practice, and in the application of new technology to its delivery, have also produced new conditions of particular interest to researchers.

Significant literature and research related to distance education, educational organizations, and interorganizational relationships are examined in three major sections, which follow. The first section explores the behavior of organizations, then moves to the topic of relationships between and among organizations. The second section is focused on institutional motives and environmental effects on organizations participating in educational collaborations and partnerships. In the third section, I discuss research implications of the literature, and propose a research-derived framework for examination of relationships between and among member organizations in a regional video distance

education network.

1. Relationships among Organizations

In this section, I examine the literature in several research disciplines to identify broadly applicable theory useful in the study of distance education networks. I begin with a perspective on organizations as systems of communication and coordination, examine theories of organizational networks, and then consider the process of sensemaking, the development of trust relationships, and the processes over time through which organizations pass.

Views of the nature and behavior of organizations. What is understood about interorganizational relationships, collaborations, and consortia is built upon what is understood about the nature and behavior of individual organizations. Organization theory is the underlying foundation for research into the relationships between and among organizations.

Our understanding of the organizations we form is significantly shaped by the world we live in. Theories of organizations can be stated as metaphors based on our environment, our society, and our dominant view of the workings of the world (Morgan, 1997). For example, organizations such as corporations, social services, and schools were created in, or highly shaped by, the Industrial Revolution. This broadly transforming event in Western society produced the tendency to see organizations as machines: structured, dependent on critical functions, focused on inputs and outputs.

As environment and society have changed, scholars have found other ways of seeing organizations: as organisms, as information processing systems, as cultures, as

political systems, as psychic prisons, as processes, or as tools of influence. They have learned that there is not a “right” metaphor to use to view and study organizations, nor is there a single best approach to participating in them or leading them. Rather, researchers and practitioners who undertake the study of organizations with a broad set of applicable metaphors, and the skill to select among them as appropriate to the task at hand, will gather the most useful information (Morgan, 1997).

While the set of metaphors has grown, and with it the fields of research in organizational behavior, societal awareness of these approaches has been shaped by the chronology of their emergence. Many people are familiar with the machine metaphor, and may think in terms of the century-old concepts of bureaucratic organization developed by Weber, or the scientific management techniques of Fredrick Taylor. One might have a sense of the organism metaphor, and recognize that a cycle of growth-maturity-renewal or decline is the history and future of the social structures in which we work and live. The average person is, however, less likely to be familiar with the other applicable metaphors. Individual behavior within organizations, then, may be shaped by those metaphors which are most familiar. People sometimes act as if organizations are essentially bureaucratic, or essentially like organisms, and this behavior shapes the behavior of the organizations (Freeman, 1999).

Major organizational activities are usually there for all to see: financial transactions, strategic initiatives, communications, hirings and firings, new facilities, endings and passages. Below the surface, there are other significant resources and functions that can help researchers better understand the organization. Use of other metaphors can bring these into closer focus. In particular, the metaphor of organizations

as “brains”, or information processing networks, provides a useful foundation for looking at the network relationships that grow between organizations.

When the brain metaphor is used, organizations are seen as functioning at the center of their own network of both explicit and informal communication channels. Organizations may be expected to communicate regularly with consumers or constituents, with those who provide resources, with those who have oversight or control. Less obvious is the fact that organizations also receive information on their actions from a broad variety of unstructured communication channels involving both internal and external stakeholders. This information, often anecdotal, processed through the cognitive and sensemaking abilities of members of the organization, is a significant influence on future decisions and actions (Katz & Kahn, 1978; Weick, 1995).

Organizations use resources that can be readily quantified: money, time, and materials. Less apparent are those resources that are less quantifiable, but very important in the life of the organization: knowledge and communication channels. Political influence, knowledge or expertise, respect in the community, and authority are examples of social assets which organizations possess to varying degrees. Organizations have human resources which have value in their exchanges with other organizations. Information possessed by organizations can have great strategic value to others (Schmidtlein, 1999). These kinds of strategic resource contributions can be important “offerings” when organizations begin to collaborate, as each brings something to the table and looks for opportunities to contribute in a unique and recognized way.

Organizations have a resource of knowledge which resides within the organization itself, is not held by any one individual, and is created as a result of people

working together collaboratively (Senge, 1990; Taylor, 1999). This knowledge is often implicit and is not discussed or described, but is an important part of the daily function of the organization. This collective or network knowledge represents a sort of common dialogue within the organization, and can be the embedded source of organizational values and “common sense” (Knight, 2002).

To obtain a more complete picture of functions and change in organizations, one must spend a significant amount of effort looking outward to the greater environments in which they carry out their daily business. Often these environments are turbulent and unpredictable. One view of organizational activity provided by the information processing metaphor is that of a continuous process of attempting to resolve uncertainty. Organizations make decisions that they hope allow them to proceed along a course that ensures organizational survival and, perhaps, achievement of purposes identified along the way (Astley, 1984).

Organizations may have clearly recognized goals and purposes, and may develop their own strategic statements of these management tools. On the other hand, organizations may not pay much attention to their stated purposes, and proceed to do something rather different (Ouchi & Wilkins, 1985). Organizations may also function with unclear or obsolete missions, or purposes whose times have passed, yet continue for a time to function. In attempting to understand and explain what is happening, one must not focus solely on structure and outcomes, but should additionally consider the value of actions and interactions that may not be planned or even intended. Explaining the organizational process as goal seeking, or identifying goal-oriented strategic planning as the focus of effective management, downplays the roles of individuals and small

coalitions, each with their own distinct needs, ideas, hopes, and fears, in shaping organizational actions. While formal decision making processes may be explicit, there is also complex accommodation that goes on in organizations, as each individual acts to achieve improvement in relationships or conditions, and to reduce threats (Weick, 1995). Relationships with other organizations involve the same kind of accommodation and individual interaction, but are carried out through more loosely coupled communication and transaction processes.

This accommodation process is developed within the environment and culture of each organization. Efforts to improve organizations by importing solutions from other places are effective only to the extent that the solutions fit the organization's environment and culture. A poor fit is often the source of unsatisfactory results when a management strategy or change process developed elsewhere is applied to an organization.

These broad views of organizational essence and behaviors have been shaped through research in a variety of organization types, including various levels of education. These views suggest that the distinctions between K-12 and higher education organizations, public and private institutions, may be superficial when viewed through the organizational behavior lens. True, there are differing environmental and social factors affecting these different types of organizations. But the kind of responses organizations make to their environments and relationships may be more similar than different. Frameworks for examining interorganizational relationships provide us with ways to describe and explore those responses and environments.

Frameworks of interorganizational relationships. Regional distance education networks are interorganizational creations, mechanisms through which a number of institutions have organized for a purpose. A number of theories or frameworks of interorganizational relations have been derived from organization theory, or from research developed in several different segments of human society. The literature of interorganizational relations has been described as "vast but highly fragmented" due to its independent development in a number of fields of research (Galaskiewicz, 1985; Oliver, 1987). Some of the more widely recognized frameworks come from studies of business relations. Others have been developed with the goal of improving networks of public social service organizations. While none of these frameworks have been developed explicitly for or within education, frameworks derived elsewhere often are applied in the education field.

Reviews of interorganizational relations research are not consistent in their classification of the different frameworks. At least seven different approaches can be identified in the literature: resource dependence, collective strategy, institutional theory, microeconomics, market failures approach, population ecology, and social class theory (Mizruchi & Galaskiewicz, 1993; Oliver, 1987; Reitan, 1998). Among these frameworks, resource dependence and institutional theory are perhaps most broadly applied in research (Reitan, 1998) while collective strategy has features which may be particularly applicable in the nonprofit sector (Oliver, 1987). These three frameworks warrant closer examination.

Among the frameworks, resource dependence has perhaps the strongest base of literature and research. It appears to fit well with businesses and other organizations that

operate within competitive environments. The resource dependence framework is derived from the assumption that organizations, operating within uncertain environments, attempt to reduce uncertainty in those environments by controlling resources needed for their functions (Mizruchi & Galaskiewicz, 1993). These resources are those broadly defined earlier: money, human resources, knowledge, information, political leverage, legitimacy, and others. Key resources are often controlled by other organizations, creating a dependence relationship. Strategies may be deployed to co-opt, leverage, or mutually exchange resources; each results in a network of relations (Pfeffer & Salancik, 1978).

While resource dependence assumes environmental stability and competitive advantage as the goals of the involved organizations, other frameworks are open to alternative motives. The collective strategy framework presents competition and collaboration as the two fundamental relationships for populations of organizations. Competition is the primary motive for organizations with a deterministic orientation; that is, operating within the belief that the organization's future is largely determined by its environment rather than its actions. Collaboration is a goal for organizations with a voluntaristic orientation, where it is believed the organization has freedom of action and choice (Astley, 1984). Astley (1984) argued that the presence of choice within constraint in many situations tips the balance toward the voluntaristic viewpoint.

When applied to individual organizations, the collective strategy framework provides strategic choice as the underlying theory for the voluntaristic orientation, and corporate strategy as the appropriate business tool to be used by the organization. At the population (multi-organization) level, the human ecology parallels of commensalism (an

interdependence between like organizations) and symbiosis (an interdependence between unlike organizations) provide the underlying theory while collective strategy is the business tool (Astley & Fombrun, 1983).

A situation for which collective strategy can be particularly effective is that of a turbulent environment (Astley, 1984). When environments are richly interconnected, with changes occurring for reasons not evident to individual organizations, independent action by individual organizations is not a sufficient response. Individual organizations simply lack enough information to choose appropriate strategies. If, however, organizations take the purposes of other organizations into account in their actions, they stand a greater chance of creating a mutually beneficial response to the environment.

Institutional theory takes a similar open systems-derived approach, and has received much attention in recent literature. This theory sees organizations as activities that take shape through their socialization into the roles and rules of their environment (Reitan, 1998). An interorganizational relationship is an abstract “collective identity” that is constantly being defined by competing views within the organization and within the larger environment (DiMaggio, 1997). By adopting social norms and symbols seen as important by the environment, the organization obtains legitimacy and ensures its survival. One of the results of the strong environmental factors seen through institutional theory is another metaphor of the organism view – a kind of isomorphism, in which organizations within the same environment should be considered as more alike than different (Reitan, 1998). In contrast to resource dependence and collective strategy, institutional theory is a deterministic view, in which the environment is the overriding factor, and organizations have relatively little freedom of action in shaping their futures.

As with the metaphors for organizational behavior, these three interorganizational frameworks are different toolkits which can provide information about different aspects of the interaction among organizations. As often happens when different schools of theory emerge among researchers, there is currently professional dispute regarding the validity of voluntaristic versus deterministic theories (Reitan, 1998). Ultimately, the answer may depend on the interests of the researcher. If there is interest in how the network obtains necessary resources and how that process shapes relationships between the member organizations, resource dependence theory is likely to be the useful lens. If the research interest is about both competitive and collaborative forces within the relationship, and if organizations are seen as having and using strategic choice, the collective strategy view may be the best fit. If the environmental forces upon the network seem dominant, and one accepts the view that organizations have little strategic choice, institutional theory may help better understand what is happening in the relationship.

Among the three frameworks, collective strategy appears to offer the most flexibility to the researcher, and the broadest view of possibilities, particularly for research in education. Oliver (1987), in an extensive study of social service organizations, concluded that the resource dependence, microeconomics, market failures, and population ecology models focused primarily on competition within a closed environment. The underlying assumptions of these frameworks did not make a good fit with the social service sector, in which most organizations enter relationships with peer organizations not for competitive advantage but to pursue shared elements of mission. Oliver argued that a better fit with social service organizations is the collective strategy framework, incorporating both competition and collaboration as key elements.

The collective strategy framework thus appears to be an appropriate tool for examination of the interorganizational aspects of regional distance education networks. However, research should be open to the possibilities of other frameworks and consider them as alternate explanations of situations and actions. Resource dependence concepts may apply to competitive aspects of the relationships within networks. The effects of environment upon the relationships may call on the researcher to consider whether institutionalization is a factor to the extent advocated by institutional theorists. In particular, the question of whether organizations have been isomorphic, becoming more similar due to their relationships, or whether they remain different in essential ways, may need to be examined.

In considering the application of concepts of the collective strategy framework to the examination of regional distance education networks, it is apparent the changing populations, markets, and technologies of education meet the definition of a turbulent environment. Obscured external influences can include global economics, public opinion changes, and new information technologies. In forming a collaborative relationship to carry out distance education programs, education organizations pool resources to make a collective response to this changing environment. The relationships they form may be seen through Astley & Fombrun's (1983) metaphoric language as either commensal (mutually beneficial among like organizations), or symbiotic (mutually beneficial among unlike organizations). Another way of explaining this distinction was provided by Oliver (1987): commensal relationships exist when two or more organizations are dependent on a common resource, while symbiotic relationships are those where organizations cannot independently obtain a resource without each other (Oliver, 1987, p. 38).

Pressures to collaborate have grown in recent decades throughout education, as political organizations press for cost-efficiency (Moran & Mugridge, 1993). Pursuit of commensal relationships with like organizations can be pursuit of the goal of strength in numbers. Pursuit of symbiotic relationships may be embracement of the idea that diverse contributions bring results greater than the sum of the inputs. It may also represent the assumption that commonalities are greater than differences in a specific relationship.

Should relationships among organizations in regional distance education networks be seen as being among like, or unlike, systems? These organizations do have many close similarities. Their general missions are to educate individuals. They operate within the same geographic region. The single dominant resource base for public educational institutions – K-12, community or technical college, university – is likely to be the state legislature, which sets funding and aids that make up the majority of budgets at all of these institutions. Private institutions may also be influenced by state resources and politics; they are certainly influenced by the resource base of private funds, for which they may be competing with the public institutions. Key individuals and decision makers in the community may serve as boundary spanners across these organizations, serving on their boards, interacting with each other in a variety of community settings.

On the other hand, differences do exist between public K-12 schools, technical and community colleges, private colleges, and public universities. These differences involve governing laws, behaviors and needs of the student body, traditions, political connections, and some distinctions in sources of funding. One may posit that the relationship is symbiotic, but the question of how similar these organizations are may be central to the success of their relationships.

The probability of a changing balance between voluntaristic and deterministic viewpoints within an organization can be seen over time. At some points, organization participants may see a great deal of strategic choice for the organization; at other times, they may feel the organization has no choices and must live within limits, such as funding, imposed by the environment. Similarly, internal and external factors can swing the balance in member organization strategy between collaboration and competition. These factors can include changes in institution or unit leadership, changes in available resources, changes in mission, changes in public opinion, or changes in technology.

Organizations act on, or accommodate, these kinds of change through sensemaking. This cognitive and affective process, once little recognized or understood, has become an important focus of attention in considering organizational and interorganizational behavior.

Processes of sensemaking in organizations. Organizations constantly receive and process information, make decisions based on that information, and learn, in a collective sense, from the results of their decisions and actions (Morgan, 1997). Sensemaking is at the heart of this organizational process: the “micro” level on which change is accommodated daily. Much of our knowledge about sensemaking comes from research in cognitive psychology, where it has been defined as the “process of using cognitive schema to interpret our environment” (Weber & Manning, 2001, p. 228). Schema are mental structures or filters that are applied as individuals or organizations receive stimuli.

Karl Weick, author of seminal works on the sensemaking process, says that it “involves placing stimuli into some kind of framework” and that it is “a thinking process

that uses retrospective accents to explain surprises” (Weick, 1995, p. 4). Weick’s suggestion of stimuli in a framework can be likened to a mental filing system containing complex instructions for handling new information. These instructions are based in collective memory of experience, and are elastic, varying with time and situation. Further defining characteristics of sensemaking’s role in organizational life include the continuously changing definition of reality for participants, the human desire for orderly and rational systems, the usefulness of symbolic acts and shared visions of reality, and the use of these visions to justify action (Weick, 2001).

Sensemaking is something different from a rational and linear process. In many cases, it appears that sensemaking is retrospective. Cognitive dissonance theory suggests that actions and supporting reasons often are not closely linked. Decisions are made first, then the facts examined to support them. Narratives are consciously or subconsciously developed to explain the benefits of particular choices and the negatives of options not chosen. Individuals and organizations often are reluctant to explain the process in this way, since it contradicts commonly held assumptions. But this is the way decisions are often carried out and explained by individuals and organizations to themselves (Weick, 2001). One explanation for this nonintuitive sequence in sensemaking is that actions often have their own symbolic value and benefit to the organization (March, 1996). In considering an action, organization members may place important weight on symbolic benefits as they first consider the pros and cons. This intangible factor may override more rational concerns about negative results.

Examination of sensemaking in organizations may provide explanations about why actions do not produce intended results. Sensemaking occurs in the context of many

positive schema familiar to us all: personal rewards for action, conservation of resources, the notion that different can be better, the creation of the greater good. There is, however, good evidence that there are both cognitive and affective factors in sensemaking that can confound efforts toward change in educational organizations (Spillane, Reiser, & Reimer, 2002). In the cognitive realm, these factors include differences in message interpretation, bias toward connecting the unfamiliar with the familiar when connections may not exist, and a tendency to focus on superficial similarities that may mask deeper differences. Among the confounding affective factors are personal values and beliefs that produce a bias toward interpretations that “fit”, concerns or fears that new “right” ways of doing things automatically make previous actions “wrong”, the effects of social contexts such as community beliefs and organizational cultures, and the effects of informal structures (Spillane et al, 2002).

The factors described above work against the effective implementation of new ideas and practices. Other influences in the sensemaking process may act positively or negatively, depending on the circumstances. One such influence is the extent to which new situations fit a narrative pattern. More so than facts or logic, the extent to which the change is congruent with “a good story” makes a difference in how participants accept it (Weick, 1995). Response also differs with the individual’s role in the organization. Decision makers, who have greater influence on the organizational environment, tend to respond more positively to the potential of organizational change than do those with less power in the hierarchy (Weber & Manning, 2001).

Sensemaking in organizations means innumerable minor and mundane communications, decisions, actions, and reactions that produce the major acts of the

larger structure. Because sensemaking is the underlying process which determines how organizations interact with each other, it is the critical process element in the picture of how organizations interact and collaborate.

Processes of sensemaking produce various cognitive and affective understandings about other organizations. Perhaps the most important of these understandings is trust, which “makes collaboration among organizations possible” (Sydow, 1998, p. 31).

Trust between and among organizations. Many different definitions of trust can be found in the organization theory and management literatures. A good point of beginning is the definition from management scientist Larue Hosmer, who describes trust as “the expectation by one person, group, or firm of ethically justifiable behavior—that is, morally correct decisions and actions based upon ethical principles of analysis—on the part of the other person, group, or firm in a joint endeavor or economic exchange” (Hosmer, 1995, p. 394). Trust has to do both with beliefs which each party holds about the other, and with feelings that have been generated within the relationship (McAllister, 1995). Consequently, the cognitive, or belief-based part of trust is influenced by information received from a variety of sources and behavior observed by one party concerning another over a period of time. The affective, or feelings-based portion of trust is strongly influenced by personal interactions; there is evidence that actions demonstrating good “organizational citizenship,” a form of ethically justifiable behavior, are strongly linked with this form of trust (McAllister, 1995). Interorganizational trust is therefore neither a cultural norm nor an incidental outcome of cooperation or collaboration, but rather is an understanding which is grown in a process of learning between and among organizations (Powell, 1996). This process is cyclical, dependent on

reinforcing feedback to improve over time and move collaborative activities forward (Vangen & Huxham, 2003). Trust may serve, in fact, as the deciding element in the creation of interorganizational relationships. Where other linkages are absent, an existing atmosphere of trust may be sufficient for establishment of a relationship (Dirks & Ferrin, 2001).

This developmental view of trust in relationships suggests that it acts to create an environment in which certain desirable results can occur. In conditions where trust exists, it becomes possible for collaborative relationships, better communication, or improved attitudes to be established. Sydow (1998) found support for a number of potential beneficial outcomes in a trust environment in interorganizational networks: the formation of collective strategies, reduction of transaction costs, the means to accommodate conflict, and the creation of an environment for interorganizational learning.

A particular challenge in building trust in collaborations is the difficulty of reaching agreement on collaborative purposes (Vangen & Huxham, 2003). Participants in a collaboration often have differing goals and needs. They may lack a common vocabulary to explain these goals and needs to each other, and to reach agreement on priorities in the course of action. Difficulty in establishing these basic understandings hinders the trust development process, leaving participants unable to “make sense” of the other’s position.

An examination of trust in interorganizational relations must also consider its interaction with the role of power. There is almost always a perceived or genuine power imbalance among interacting organizations (Vangen & Huxham, 2003). Some

organizations participate not from a position of trust in others, but because of resource dependence: they must interact to obtain a needed resource controlled by another (Hardy, Phillips, & Lawrence, 1998). These somewhat unwilling participants are most likely to be involved only to the level required to get what they need. Issues of fairness and equality within the collaboration work against trust development. Both symbolic and substantive actions that increase the sense of fairness may counter the power issue and increase trust.

Not all aspects of trust are positive. High levels of trust may work against necessary organizational change, as parties can be reluctant to do anything that might reduce the trust level. Furthermore, high trust by nature leaves the door open for behaviors which violate that trust (Sydow, 1998). These “potential seeds of dissolution” will be further examined in the context of effects of change over time in interorganizational relationships.

The presence of trust is therefore a necessary element to collaboration, and the level of trust an important indicator of the process of learning among organizations in an interorganizational network. Identification of trust levels, and changes in trust, can be approached through general research procedures such as structured interviews, or through specific tools such as the Organizational Trust Inventory (Cummings & Bromiley, 1996).

The development process of interorganizational relationships and changes with time. The interorganizational frameworks previously discussed provide little information about the process by which cooperative interorganizational relationships are developed and maintained. Ring and Van de Ven (1994) pointed out this omission in major organization theories. They offered a model to explain the process of formation of basic

interorganizational agreements, referred to as relational contracts. Organizations enter into relational contracts to carry out activities they cannot achieve on their own in an uncertain environment.

In entering a relational contract, organizations assess the risk that the collective activity will fail, and the prospect that other participants are not reliable. Establishment or existence of trust among the participants is essential, as are assurances of equity, a structure for dispute resolution, and an understanding of how changes in the relationship will be managed over time (Van de Ven and Ring, 1991).

Process issues are identified as key to the development of effective interorganizational relationships. Processes of relational contracts move through stages of negotiation, agreement, and administration.

Van de Ven and Ring have found that equity is as important a criterion as efficiency in evaluating cooperative interorganizational relationships. They propose that equitable and efficient outcomes from such relationships are the cumulative result of three processes:

- sensemaking
- understanding: the process of socially constructing and agreeing to terms of relationships
- committing: the informal process of reaching psychological contracts among parties

Other processes can support or conflict with these processes. The institutionalization process supports sensemaking, understanding, and committing by changing a formal transaction into a socially embedded relationship that can outlast its

founders, contributing significantly to the level of trust between partners.

Institutionalization can be recognized in three measurable trends:

- personal relationships supplement formal role relationships
- psychological contracts (i.e., joint understandings not formalized) take the place of formal contracts
- formal contracts increasingly mirror informal understandings and commitments

The longer a relationship has existed, the more reluctant the parties will be to terminate it when a breach of commitment occurs. However, the following factors can contribute to dissatisfaction and eventual dissolution:

- excessive structuring and monitoring of transactions
- conflicts between specialists within the different organizations
- violations of trust
- reluctance to act when higher levels of commitment are needed for future transactions

(Van de Ven & Ring, 1991, p.12-24)

The seeds of disintegration of relationships are found in the same structures, safeguards, and processes that led to their formation and growth. Formalization of the relationship can conflict with needs in the member organizations for flexibility and independence of action. As described previously, formal structural safeguards to the abuse of trust can actually increase the opportunities for such abuse when they depersonalize the relationships. Only through direct personal contact and sensemaking, understanding, and commitment between key participants can trust be re-established. On the other hand, institutionalization places a higher responsibility for the relationship on

individual relations. When key participants change, linkages can be lost, trust reduced, and the relationship weakened.

Organization life and interorganization life can be viewed long term as a life cycle. Cameron and Whetten (1988) point out the options that face an organization as it attains a stage of formal maturity. Through leadership and change, the organization can move on to new heights and continued development. Structuration and satisfaction lead to a stable, steady-state operation, while a loss of vision, change in leadership, or changes in the “rules”, i.e. environmental forces not adequately addressed, lead to organizational decline.

Van de Ven and Ring suggest longitudinal research throughout the life cycle of an organization to fully understand the nature of its interorganizational relationships. Such research can indeed provide a more complete picture of the status of relationships at any given point in time. Research that is not longitudinal should identify a life cycle point or frame of reference in order to incorporate the temporal change concept integral to the framework.

Discussion. In the major section preceding, I have explained perspectives of organization theory and interorganization theory of particular application to the study of interorganizational networks in education. Drawing from the applicable metaphors of “organizations as brains” and “organizations as organisms,” I have shown that both explicit and implicit exchanges between organizations in a network are mediated through processes of sensemaking as the relationship develops. The critical factor of trust is developed through a cyclical process in this way, offset by issues of power imbalance and the challenge of identifying and communicating common collaborative purposes.

I have identified the collective strategy framework as applicable to the interorganizational study of regional video distance education networks. I also acknowledge the prospect that resource dependence and institutional theory may further inform the understanding of these network relationships.

The change-with-time model of Ring and Van de Ven is another applicable tool to the examination of relationships within a distance learning network. The collective and individual understandings that permit a distance education network to operate are examples of relational contracts. Formal agreements may address the four issues of equity, trust, governance structure, and temporal change. The equally important informal processes and communications must be assessed to more fully identify the network's development and evolution. Individuals active in the network's decision making process will have views on the processes of sensemaking, understanding, and trust development that are ongoing between the member organizations.

The identified factors leading toward dissolution, and individual actions of sensemaking, understanding, and commitment by key participants, may also serve as yardsticks to the effectiveness of the network organization. Examining mission statements, meeting minutes, organization reports, and the responses of key participants may help determine whether the issues on Ring's and Van de Ven's list are being met in an effective way, or whether significant tensions exist.

Longitudinal study of organizational change is often impossible in research, but an awareness of the processes of change over time in the history of relationships can provide greater understanding. This awareness can also provide a sense of where the organization is in its life cycle when research is conducted.

2. Institutional Motives and Environmental Effects in Distance Education

Collaboration

In this section, I examine the literature of education and related fields to consider the motivations for, and environmental effects on, distance education collaboratives. I begin with the individual institution and its individual participants, then move to the interinstitutional level, ending with the effects of the broader societal environment.

Institutional motivating factors. The interests and actions of the individual member institutions, and the internal challenges they encounter as they participate, have significant effects on the function of an interinstitutional collaboration. Distance education programs have some unique characteristics which place pressures on the institution to collaborate, while simultaneously creating internal tensions regarding commitment and resource allocation. This situation can be clarified by examining the underlying purposes behind an institution's goals in distance education.

Improvement of student access is the most common purpose for distance education initiatives, with economies of scale as a related goal (Duning et al, 1993; Verduin & Clark, 1990). An organization may decide to begin or join a distance education initiative when one or both of these purposes emerge from the institutional mission, whether stated or implicit. Distance education is a means to an end, not a purpose in itself. Thus, one measure of its overall usefulness is the extent to which it advances the mission of the educational organization. Typical mission-derived goals are outlined in the criteria developed by Gooler (1977) for evaluation of nontraditional postsecondary adult education programs:

- the degree to which access is expanded
- relevance to the needs of potential learners
- cost-effectiveness
- impact on the parent organization
- new knowledge generated

(Gooler, 1977, p. 78-95).

Access, cost-effectiveness, and meeting the needs of potential learners are key elements of any outreach program. Generation of new knowledge is particularly characteristic of research universities, but is becoming more widely recognized as an essential role within any "learning organization," that is, an organization which evolves and improves through its use of new information (Senge, 1990).

While access and economies of scale are often the primary and official purposes of an institution's involvement in distance education, such involvement also can be seen as a way to meet other institutional purposes. Emerging educational technology systems such as distance education networks are often popularly identified as new opportunities for reforming or improving education (Cuban, 1986). Leaders of schools, colleges, or universities may choose to become involved in a distance education network to achieve the public relations benefit of association with new technology and, by implication, "state of the art" educational opportunities (Duning et al, 1993). Benefits to learners may be important to some segments of the institution, but other decision makers may measure success in newspaper articles, mentions by alumni or community leaders, and impressions on legislators or potential future students.

Other forces that may motivate involvement are external to the institution. The

initiative of a few schools within a geographic region may stimulate neighbors to join, seeking shared goals or fearing being left behind. Activities of other educational providers, such as a nearby institution that is a strong competitor for students, are sometimes motivating for universities and technical colleges (Epper, 1996). Public leaders such as governors, legislators, or business executives may also promote educational innovations as being in the public interest, encouraging educators to embrace their benefits (Greydanus, 1997).

Pressure to participate may cause institutions to join consortia without adequately evaluating benefits or planning uses (Greydanus, 1997; Schrum, 1992; Van Kekerix, 1986). Such actions may not directly support the educational mission of the organization, but may offer the promise of other benefits in the form of future positive responses to funding requests, or other kinds of political support for the institution's purposes.

Institutions do not, of course, speak with one voice. The original commitment to participate in a distance education network may be supported by different individuals and offices for different reasons. While the continuing education office or academic departments seek a new means of extending services or reaching new markets, the superintendent or president may support that initiative for its public relations value.

Institutional challenges to collaboration: culture, autonomy, existing relationships. Collaborative initiatives in education generally run counter to institutional traditions, which focus on the institution's health and future in a bounded way (Johnson, 1988). The leadership of an organization which joins a regional distance education network has decided that the benefits of collaborating outweigh the traditions which are in conflict with the collaborative effort. Long term involvement requires overcoming a

number of identified internal barriers, most related to traditions or enduring practices.

Moore and Kearsley (1996, p. 192-193) describe these barriers as:

- mechanisms that drive continued investment in bricks and mortar
- institutional orientation toward traditional students
- rules on registration, fees, library services, examinations
- teacher load/non-load issues
- territoriality
- lack of rewards for collaboration, as opposed to competition

These internal barriers can be identified as aspects of organizational culture. Every organization has a set of explicit or implied beliefs which are characteristic of its identity at a given time. This socially constructed point of view is a product of the "bounded rationality" exercised by individuals within organizations. An organizational culture has rational and non-rational elements, due to the imperfect information processing abilities of individuals (Ouchi & Wilkins, 1985.) Attention to both elements is necessary in a change process. It is as important to find answers to fears and projections as it is to share probable results. Here again is where sensemaking is going on, affected by a variety of factors within the individuals and the collective organization.

People in institutions entering into a consortium are likely to exhibit concerns over loss of autonomy. Johnson (1988), in discussing higher education consortia, identified four potential impacts on consortia resulting from these concerns:

- fears of drain on institutional resources may limit consortial access to those resources
- prohibitive decision making procedures, imposed at one or more partner

institutions, may prevent true cooperation

- partners may support only weak programs, withholding resources for their own benefit
- there may be a lack of reward for faculty participation

There is always tension between autonomy and consortial success. As Rumble (1986, p.104) stated: "The more an institution is embedded into communities of educational agencies in such a way as to increase specific mutual benefits, the greater extent to which that institution will have to share control (or alternately, share legitimate authority) in one or more of these key areas." Organizations must strike a balance in their strategies when there are potential conflicts between actions to advance the organization and actions to advance the consortium. To advance the consortium over organizational strategies in this symbiotic way is a "frame-breaking" action, putting aside the four impacts identified by Johnson in favor of future collaborative benefits. High levels of investment in consortia often require risk and expenditure of political capital by institutional leaders. Costs are immediate, while benefits may not appear until much later.

Existing external relationships may also pose barriers to the success of new collaborative relationships, particularly if those existing relationships have elements of funding or regulation. For example, program development policies of a higher education system may make it difficult for a member institution to create the new programs desired by its partners in a collaborative organization. The expectations of a community for its K-12 schools, represented through the views of members of the school board, may or may not extend to participation in a larger partnership. Each institution has a finite

amount of resources to devote to external relationships. For political reasons, an existing structure may demand the primary attention of the decision makers.

The decision process of joining in collaboration. Within an educational organization, who plays the key roles in institutional commitment to participate in a distance education network? This process of adoption of change or innovation within an institution may be better understood by examining models of decision-making in educational organizations. Wahlstrom and Louis (1993) developed an applicable model for a study of four K-12 school systems in Minnesota. This model incorporates March's definition of educational organizations as organized anarchies and the problem-identification process of these organizations as "garbage cans" in which ideas may emerge, circulate, advance, disappear, or be discarded without any predictable pattern. The key act to start the advancement of an idea is its selection by an "idea champion" who has the authority or influence to move it into the organization's decision-making process, or by an "idea advocate" who lacks such authority but brings ideas to others. Idea champions are people in positions of authority, perceived as trustworthy and knowledgeable on both the work of the school and the advocated idea. They are often boundary spanners who bring concepts in from many sources, but are perceived as well grounded in the local context of the organization and the time.

The idea champion may need to work through several "gatekeepers" to bring the idea into the process, but ultimately a successful innovation will enter a political process determined by key actors, relationships, and the political environment. The process is rarely linear, and is complicated by the ambiguity of decision opportunities through the separate paths of problems, solutions, participants, and opportunities (Cohen, March, &

Olsen, 1972). In settings such as committees, boards, or administrative councils, it succeeds or fails.

The commitment to participate in a distance education network will have passed through this process in each participating school district or institution. Key players in the decision will have included an idea champion; gatekeepers in the hierarchy above the idea champion; and possibly active players in the political decision-making process. These people will be most qualified to identify the original purposes of the organization, particularly if they are still in the same role or have continued to be involved with the distance education program.

Organizations become involved in networks for purposes of mission, particularly outreach or economy of scale; for public relations, political, or technology reasons; and perhaps for other unique reasons. Those who participate in the decision to join are likely to be identified by others as idea champions, boundary spanners, or gatekeepers/decision makers within the institution. These are the people who will be most qualified to identify the initial expectations of the institution and compare them with the results.

Motivators and challenges of collaboration at the interinstitutional level. The collaborative itself, functioning as an organization, generates forces on the collaborative relationships and interacts with its environment. There is a significant, though largely descriptive, literature on the many forms of collaboration that exist among educational organizations. Accrediting associations, regional service agencies, joint curricular initiatives, grant teams, and articulation agreements are examples of these collaboratives. The themes identified in the broader context of organizational relationships also emerge in the literature of educational consortia and collaborations. Forces of time,

environmental change, participant change, and technology change are present. Education also has unique characteristics affecting its relationships. These are in the division of clientele among levels of education, with separate organizations serving each level; in the ways that success is measured; and in the ways that resources are obtained and distributed.

The literature of educational collaboration tends to take a rational-structural view of interinstitutional relationships. The structuring of the collaboration is often reported as important to its success. It is suggested that member organizations must have sufficient congruence of mission with the collaborative purpose to ensure long-term commitment (Johnson, 1988). A mismatch between membership and mission results in a weak collaboration that is unable to act effectively.

Flexibility in structuring is also seen as important to long-term success. Organizations can become bureaucratic over time. While resource conservation in the form of economies of scale can be an important collaborative goal, undue emphasis on this element can limit the organization's effectiveness (Johnson, 1988). Excessive structuring can introduce inertia into the relationship, limiting choices of action and narrowing the scope of the organization (Van de Ven & Ring, 1991). On the other hand, structure is often used as a method of increasing trust among partners. Each collaboration must manage its amount of structuring in order to proceed effectively.

The central player in the relationship among members in the collaboration is the person given executive power on behalf of the collaboration, typically a director or coordinator (Johnson, 1996). This individual is the custodian of a great deal of the trust between the member organizations. He or she must be effective in communicating with

key participants of each member organization. The director's role is to actively manage the three strands of organizational change identified by Tichy (1983)--technical, political, and cultural.

Trust can be reduced within educational consortia when there is a loss of key personnel or a loss of funds (Tushnet, 1993). Interpersonal relationships become more important than formal agreements as the life of the organization progresses. As time passes, it becomes more and more likely that key leaders will depart and be replaced by people who have not played the role of founder. These new participants may be less interested in the goals of the organization. They may apply a critical perspective, expecting more than the organization is delivering. Or, they may accept the consortium's goals and become active leaders.

The loss of funds is often the result of the "start-up grant" approach commonly found in education (Tushnet, 1993). A solidly realistic business plan for the organization, anticipating technological and administrative challenges and projecting achievable goals, is essential to avoiding this problem (Van Kekerix, 1986). Funds also can be lost when a participating institution withdraws support, due to changes in its leadership or external factors. In this case, the formal consortial agreement and/or the collaborative problem-solving process are key in overcoming the obstacle (Tushnet, 1993).

Publications and research on interorganizational relations in education during the past two decades have often focused on school-university partnerships. These partnerships have been created to facilitate research and dissemination of new knowledge on best educational practices (Sirotnik & Goodlad, 1988). In the past, such partnerships have assumed a flow of knowledge and expertise from the university to the school. A

more recent trend is the recognition that both types of organizations play significant roles in obtaining results, with schools becoming active participants rather than just passive research sites. Universities have also traditionally had better access to resources for research and reform, but that imbalance is also changing, as schools and school-related organizations gain research expertise and become the focus of grant programs.

An interesting viewpoint that provides support for an institutional view of these relationships is that conflict may arise in school-university consortia not because organizations are different, but because they are so similar—each with its work well defined and each carefully guarding its turf (Lieberman, 1992). Successful participation in a consortium requires an institution to be flexible about its traditional ways of pursuing goals. It also requires identifying those goals that only can be achieved collaboratively, and ensuring that they are sufficient to justify the collaboration.

Collaborative relationships among other educational organizations receive little attention in the literature. Technical institutes, community colleges, and K-12 schools have traditionally had a close working relationship in those program areas that articulate with the technical/community college program. Many technical colleges were founded as the technical program of a high school, and some states continue to operate technical colleges administratively as part of the K-12 system.

A recent trend in technical education has been the development of “tech prep” programs. These programs are designed to remove barriers and improve progress for students between K-12 programs, technical college programs, and entry into the workforce. Articulation programs between K-12 schools and community colleges parallel these relationships.

Research into these relationships and their distinct characteristics is very limited. Those few studies that exist have focused on the benefits of formal relationships, established through carefully written and administered articulation agreements, while suggesting that informal relationships between instructors at all participating institutions are important to long-term success (McKinney, Fields, Kurth & Kelly, 1988). Boundary-spanning activities in design of curricula, selection of resources, and evaluation of students are recommended (Robertson-Smith, 1990). As researchers identify needs for equity among institutions, acknowledgement of institutional credibility in collaborations, and collegial relations between faculties, they echo the relationship framework of Ring and Van de Ven (1994). These needs represent actions necessary to maintain trust and avoid turf issues.

Motivators and challenges of collaboration at the societal environment level.

Regional distance education networks operate within a larger technological, political, and cultural-ideological environment (Tichy, 1983). Characteristics and changes within this environment can broadly impact their function.

Tichy's use of the term "technological environment" refers broadly to technical processes and resources. The current common use of the term, to describe electronic information and communication systems, is applicable here. Two-way interactive video is only one of several communication technologies to become broadly used educational tools in recent years. The emergence of a highly flexible communication tool, the Internet, has attracted broad societal attention. The Internet can provide synchronous and asynchronous written communication through chat, discussion boards, and e-mail. It can provide forms of audioconferencing and videoconferencing. Integrated software designed for instruction can

offer a toolbox of teaching/learning capabilities, and is provided by multiple vendors. The Internet itself presents a wide spectrum of decisions for distance education programs; each decision is a potential commitment of resources and institutional energy to products which may or may not have a long useful life. Non-Internet systems such as dial-up videoconferencing have also become affordable for many institutions.

Within this environment of communication riches, institutional decision-makers respond in differing ways. Some seek to invest scarce dollars in "the best" technology, expecting a future where a small number of products will emerge as successful. Others invest in multiple systems, expecting a multiple-system future, or covering as many future prospects as are affordable.

Within this environment, regional distance education networks have distinct characteristics. Generally, institutions initially invest in single-channel access to the network, meaning one course can be sent or received from the institution at a time. While there is the potential of offering up to 14 hours of coursework each day between 8 AM and 10 PM, student preferences, instructor preferences, and classroom technology support needs often limit use of the system to fewer hours. The network is primarily designed to support a lecture-discussion instructional method; other methods can be integrated, but seeing and hearing a distant presenter is central to this technology (Trotter, 1999). When comparing to the widely distributed and flexible Internet, one might conclude the interactive video system offers less. On the other hand, the quality of audio and video communication through a video network remains technically superior to Internet video in 2008.

Regional distance education networks are typically leased from telecommunication companies. Since networks provide "live" communication, successful course delivery is

dependent on stable, reliable service from the transmission and control systems. The telecommunication companies providing networks generally have extensive experience with telephone and data transmission services, incorporating multiple back-up circuits and switching capabilities. Their experience with video transmission is less extensive, as there are relatively fewer private and commercial users of these services. This may result in less-than-reliable service for video courses, and annoying technical interruptions. The extent to which the technology becomes less dependent on technical support, and more convenient for users, is a significant factor in its adoption (Farrington, 1999).

Maintaining and replacing classroom video equipment is an ongoing problem in some distance education networks (Trotter, 1999). Many schools, colleges, and universities are not accustomed to making regular, substantial investments in educational technology.

These distinct characteristics may differently affect participant institutions in a distance education network. Some institutions may see the network as just one part of their overall distance education program mix, while others may view it as their single, major investment, with high expectations for results. Performance issues may have a great deal to do with the satisfaction of learners, instructors, and, ultimately, decision-makers.

The technological environment is nearly always first and foremost on the agenda of distance education networks. This constant presence can crowd out attention to pedagogical needs and goals in the program. Issues related to technology can take so much of the participants' energy, time, and resources that there is little left for program delivery or evaluation (Duning et al, 1993; Greydanus, 1997). This problem is not unique to regional networks, and is found throughout technology-delivered distance education, but it is a factor in institutional perception of distance education programs.

The political environment is shaped by public opinion about education and technology. With the broad emergence of communication and information technologies in society, the period of the 1990s on has been one of general public enthusiasm for the benefits of these technologies in human activity. Positive impacts on business and home life have produced positive public attitudes about technology in teaching and learning.

The advantages of using technology for teaching and learning have long been researched and debated. Generally agreed advantages include better content retention due to visual presentation of information and learner interaction with the material, the ability to simulate situations and equipment, and the ability for learners to construct their own meaning. Technology, if used improperly, can also distract or confuse learners and waste funds (Cuban, 1986). However, the broad public sense has been that investment in educational technology is a good way to improve education (Heinich, Molenda, Russell, & Smaldino, 1999).

The decade of the 1990s saw broad support for public investment in educational technology. Major state initiatives such as Wisconsin's TEACH program have funneled grants for hardware, software, and communications to K-12 schools. Higher education institutions have also seen growth in technology funding.

There is also a strong commercial element to educational technology. More than any other aspect of education, this is one that requires purchase of expensive products. Vendors actively promote their wares to school and college decision-makers. In the 1990s, they also became active at the political level, influencing legislators and governors to commit dollars for educational technology projects. Some observers have criticized these efforts as promising more than can be delivered (Bowers, 2000; Cuban, 2001).

Relationships among educational institutions form another type of political environment. These relationships often are affected by issues of money and power, or competition for resources. Key administrators may be able to exercise a form of influence over their counterparts in other institutions, due to their perceived or real role in acting to the benefit of the other (Duning et al, 1993).

The political environment introduces a variety of pressures into the relationships within regional distance education networks. Some of these pressures may be congruent with the needs and interests of some types of member organizations, while in conflict with the needs and interests of others.

The cultural-ideological element having the greatest effect on regional distance education networks in recent years is the educational reform movement in the United States. Reform has been a cyclical feature of American educational history (Tyack & Cuban, 1995). In the 1980s and 1990s, significant features of this movement have included efforts to improve student performance in comparison with that measured in other nations, or in compliance with standards defined as more rigorous (National Commission on Excellence in Education, 1983); application of new concepts, often derived from business models, for improving quality and efficiency (Walsh, 1996); experimentation with new structures such as charter schools; and application of technology to teaching and learning (Tyack & Cuban, 1995). The ideological concept that significant change and reform is essential to the future of American public education has appeared widely in the popular literature, and has been explored thoroughly from many viewpoints within the education community.

Reform advocates have applied a wide variety of methods to introduce change in the culture of schooling, with mixed results (Miles, 1993). Technology is one of these tools.

The anticipated results are greater efficiency and improved performance. Cuban's (1986) cautions about past failures of educational technology to produce anticipated results, and the negative impacts on educators of these failures, suggest that the expectations of reformers for cultural change through technology do not take into consideration the requirements of school culture. Rather than using technology to change culture, educators use technology as it fits within that culture. The forces which require this may not be explicit, but do operate as powerful systems within the educational organization (Senge, 1990).

Discussion. In the major section preceding, I have identified the positive and negative impacts on collaboration within organizations, among organizations, and in the organization-environment relationship, for educational collaboratives. The work of Astley, Van de Ven, Ring, Tichy, and several education researchers provides ways to recognize and categorize these forces. Of particular importance are the effects of individual and collective sensemaking, of organizational culture, and of the political and technological environment. These factors decide what organizations must put into the relationship, and what they get out of it.

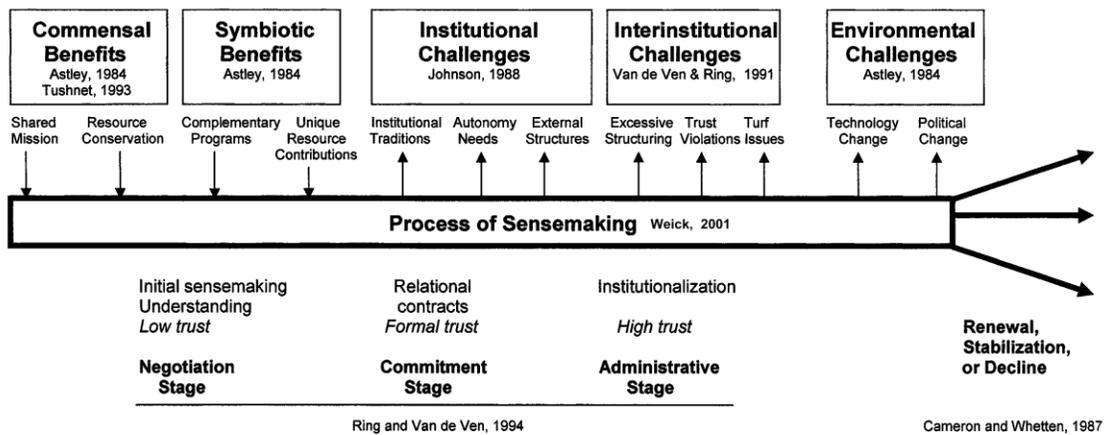
The literature of educational collaboratives in general, and of distance education collaboratives in particular, tends to be descriptive or highly specific in its focus. Relationships which join technical colleges, community colleges, private colleges, education cooperatives, and K-12 schools together have not received attention. The challenges of finding a common vocabulary, focusing on goals in common, overcoming cultural differences, and planning together while resolving external demands and needs, make this type of collaborative a particularly interesting research focus. Adding the very significant forces of technology change and political change reinforces this interest.

3. Research Implications of the Literature

Integration of theories and frameworks. An integrative framework to define interorganizational relationships among the member organizations of regional video distance education networks must look at the motivations bringing organizations together, the challenges that pull them in other directions, and the process through which they pass over time. A framework based on the research and literature previously discussed is proposed in Figure 2.1.

Figure 2.1

Collective Strategy Framework of an Interorganizational Relationship



Underlying the framework are the relationship-over-time concepts of Ring and Van de Ven, and the long-term institutional directions of Cameron and Whetten. This institutional timeline is traveled by all collaborative organizations which reach the operational stage. These organizations move through stages of negotiation, reach commitment, then enter a period of institutionalization and administration of their

relationships. The development of trust proceeds from initial understandings, to formalization, to the informal institutionalization of the relationship. In the long term, this leads to one of three directions: renewal, stabilization, or decline.

It is important to note that the described path is formalized and ideal. In practice, such a linear route is less likely than is a track which encounters some complications along the way. There may be difficulties in communication, reductions of trust, or external forces which distract.

Two major types of benefits, and three types of challenges, exist as forces on the relationship at all points along the timeline. The benefits are depicted with arrows pointing into the timeline and into the sensemaking process, representing forces contributing to the relationship. These are the commensal and symbiotic benefits of Astley's collective strategy framework. Commensal benefits include shared mission, in which institutions are striving together toward a common goal, and resource conservation, commonly described as "economies of scale." These are ways in which institutions collaborate while sharing a resource in hope of achieving a sum greater than its parts. Symbiotic benefits, in which institutions are dependent on each other to make use of a resource, include complementary programs, as in articulation agreements allowing simplified transfer of credit from two-year to four-year institutions. There also are cases of unique resource contributions. For example, technical colleges may provide significant technology expertise to the development of a distance education network, since they often have knowledgeable staff in this area. Other institutions may have key political capital, or access to funds, to contribute to the collaboration.

The three kinds of challenges are institutional, interinstitutional, and environmental. These are depicted with arrows pointing out of the timeline and the sensemaking process, representing forces working against the relationship. Institutional challenges are those of a specific member institution. These might be institutional traditions which advance the concept of independence and separate initiative, or uphold general traditions such as "bricks and mortar" as a priority. Institutions may have needs for autonomy to achieve specific goals. They may also be participants in external structures, such as statewide systems, that place demands or requirements on the member that compete with, or are in conflict with, those of the collaboration.

Interinstitutional challenges are those identified by Van de Ven and Ring as evolving out of the interorganizational relationships. Excessive structuring can appear as the organization matures and becomes more formal in its processes. Turf issues reflect the fact that organizations, while collaborating, can simultaneously compete for roles and resources. Violations of trust, intentional or otherwise, raise barriers among the participants in the collaborative organization.

Environmental challenges, identified by Astley, arise from broad societal change. Technology change can make organizational planning and goals suddenly obsolete. Even when change is more gradual, its results can reduce the value of substantial organizational investments over time. Change may draw partners apart as they pursue different new technologies that better suit their separate missions. Political change can provide new resources or remove existing programs. The arrival of new leaders and participants in organizations, or changes in societal views and values, can result in the identification of new goals and the fading of old ones.

The framework is not quantitative. That is, it does not suggest there are always more challenges than benefits. Rather, it attempts to define and categorize the benefits and challenges in a way that presents, as nearly as possible, the whole of the forces that affect a collaborative organization as it proceeds along the timeline.

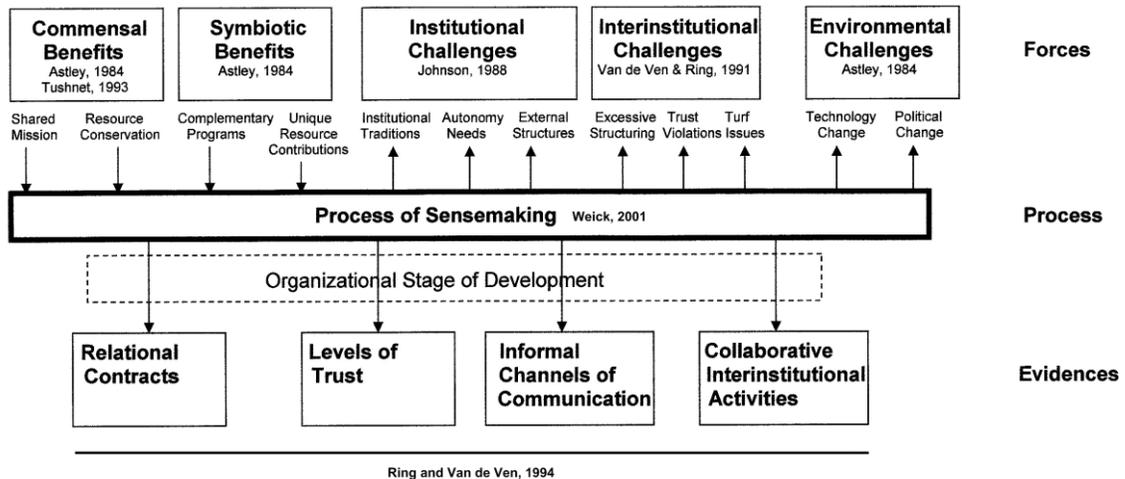
The conflicting forces of benefits and challenges play out through the sensemaking process to add up to a "commitment state" for each member institution at any given point in time. Furthermore, in each institution, the commitment state is the broad summation of the attitudes of the decision makers, idea champions, and other participants in the institutional process. The commitment state, in turn, affects the extent in which the collaboration is made central to mission, is provided resources, and is devoted administrative attention. It affects the extent to which seeds of dissolution appear in the interorganizational relationships and are allowed to grow. This view of the organization's nature is that of a "system of commitments" (Weick, 2005, p.4).

Research Strategies for Framework Application – a non-longitudinal approach.

The proposed framework offers ways to examine the relationships among member organizations of regional distance education networks. The greatest challenge in its full application is the gathering of longitudinal data. Often this is simply not practical, due to time constraints on the researcher. However, identification of the stage of development of the interorganizational relationship is helpful in understanding its nature. A study conducted in a non-longitudinal method could apply a subset of the framework, as presented in Figure 2.2.

Figure 2.2

Framework for a Non-Longitudinal Study



This framework subset retains the forces on the interorganizational relationship, and the sensemaking process which determines the balance of these forces. The organizational stage of development is an underlying variable which acts on a number of elements found in the relationship. Key elements identified in the literature have been included in the subset:

- Relational contracts – the formal and informal understandings which create the relationship
- Levels of trust - evidence of a learning process among participants, demonstrated both in beliefs and feelings.
- Informal channels of communication – growth in these channels demonstrates the embeddedness of the relationship
- Collaborative interorganizational activities – identifiable joint initiatives created

to meet shared needs or goals.

Among the possible research strategies for application of this framework, the following seem particularly useful.

1. Comparison of the perceptions of benefits versus challenges among key participating individuals, within the categories identified in the framework. Symbiotic and commensal benefits are indicators of the strengths of the relationship, while institutional, interinstitutional, and environmental challenges are indicators of pressures on the relationship. Patterns of differences in perceptions may be documented and analyzed.

2. Close examination of the sensemaking processes among involved individuals and among member organizations. The kinds of perceptions, communications, and commitments that go on define essential parts of the relationship. Informal relationships and feedback, both within the organizations and with other members, will be important in the institutional sensemaking of the value of the distance education network, and in commitment of resources. This examination might result in mapping of key relationships and in identification and valuation of specific motivators and challenges for each member. Comparison and analysis among these examinations could then identify differences and offer possible explanations for actions or positions.

3. Study of the levels of trust among members, as identified by key participating individuals. Trust perceptions determine a great deal about the effectiveness of interactions among members. They also significantly determine the perceived power relationships among members. Since levels of trust change as the relationship develops

and ages, trust can be linked to the formalization and structuration of the collaboration.

While the framework is grounded in the research and literature previously examined, like all conceptual tools it is a work in progress. Areas for potential further refinement include the applicability of elements of interorganizational frameworks other than collective strategy, and the definitions of some of the types of benefits and challenges as derived from the literature. These are areas which may be examined for improvement in the course of research, through comparison of alternate explanations.

A research interest. An area of potential interest for regional distance education networks involves broadly held expectations that the sum will be greater than its parts. When the concept of the network is advanced by its idea champions, a key part of their case often is that the combination of a new communication system and a new kind of collaborative relationship will generate new program activities that will meet learner needs in new and beneficial ways (Epper, 1996; Greydanus, 1997; Johnson, 1996). The idea that close collaboration among members of several levels of education--K-12, technical or community college, and university--will create something new and desirable is attractive to potential members. This vision suggests that these regional video distance education networks are one mechanism for movement toward a more integrated K-20 education system, a desired goal expressed in many sectors (Caboni & Adisu, 2004).

Whether this kind of leveraged result actually happens as the network is created and matures is of interest. Of further interest is how forces encourage this collaborative leveraging, how forces moderate or oppose it, and how these play out to meet or not meet the results expected by the member organizations.

A study of this phenomenon would be grounded in the analytical framework's concept of the sensemaking process continuously resolving the interaction of the forces of benefit (as developed through collective strategy) and the forces of challenge (in the form of institutional, interinstitutional, and environmental challenges.) The process is also shaped by the level of trust present in the relationship at each point in the organization's life cycle. These interactions determine the extent to which member institutions integrate the distance education program with their missions, the extent to which they invest and continue to invest significant resources in the program.

The study would focus on the extent to which collective strategy is generated and applied in the interorganizational relationship to create collective activities, and the extent to which such activities are moderated or countered by the effects of institutional, interinstitutional, and environmental challenges to collaboration. It would provide an improvement in understanding of the effects of these forces in this type of interorganizational relationship.

Conclusion. In a review of the distance education literature from an organization perspective, Kovel-Jarboe (1990) identified the need for research in administration of distance education programs, citing interorganizational relationships as an area deserving attention. The examination of the literature for this review found only peripheral study of the interorganizational collaborative aspects of distance education networks. Research to date has not been focused on the regional video distance education network as a unique point where K-12, two-year higher education, and four year higher education institutions collaborate and share a limited telecommunications resource.

Perspectives from the organizational management, interorganizational relations,

educational administration, and distance education literatures can be applied to organizational studies of distance education networks. While these literatures may use differing terms, as a whole they provide information on the conditions under which networks form and operate, and the processes through which they pass.

By combining the key elements of theoretical frameworks from these literatures, an integrated framework can be provided to analyze the processes of commitment and change among the member organizations in nonprofit collaborations. This framework can be applied to guide the design of research that may answer questions about the functions of these collaborations.

CHAPTER THREE

Methodology

In this chapter I describe and justify my selection of the study research question, and my selection of a qualitative research design using grounded theory methodology. I outline the methods used to ensure research trustworthiness. I also present the techniques used to ensure ethical research practice.

1. Selection of a research question

My interest was in the effectiveness of regional distance education networks as a means of carrying out the purposes of the individual member institutions. Member institutions have chosen to collaborate because they expect collaboration to help them meet some goals or purposes. The fact that this collaboration is happening across the boundaries of different types of educational organizations—K-12 schools, technical colleges, tribal colleges, education service agencies, baccalaureate institutions—suggested interesting challenges and outcomes.

Effective exploration of the entire web of collaboration was, however, beyond the resources of this study. Since my professional life and graduate interests have been in higher education, I chose to focus my research on the relationships among higher education institutions – specifically, four year and two year colleges and universities -- and K-12 schools in regional distance education networks.

I also chose to focus my research on regional distance education networks within the state of Wisconsin. Wisconsin has one of the most extensive systems of regional

distance education networks in the United States. One historic pilot network, built on cable television technology, began operation in the late 1970s (Hartz, 1983). In 1992, the state government of Wisconsin produced its first comprehensive information technology plan (Evans, 2007). The plan included a vision of “up from the grassroots” development of regional distance learning networks by collaborating educational institutions at all levels of education.

The presence of that vision in the plan was related, in part, to the pending startup of two regional video distance education networks, which began operation with the start of the fall academic term of 1992. This was followed by expansion through the 1990s to the 32 networks in operation in 2009. This growth was stimulated in part by significant state educational telecommunications funding to K-12 schools through the 1997 TEACH Act. At the beginning of this study in 2006, all of the network members of the Wisconsin Association of Distance Education Networks (WADEN) had been in operation for five or more years. These networks could be expected to have reached the administration stage in the development model of Ring and Van de Ven (1994). The presence of this level of organizational maturity had the potential to strengthen the effectiveness of the study.

In 2002, the statewide Wisconsin Educational Network Collaborative Committee (WENCC), created by the state’s Department of Administration to plan for the second version of the statewide video interconnect, the BadgerNet Converged Network (BCN), issued a business plan for the upgraded network. While the plan speaks generally in terms of digital network connection to all educational locations statewide, implicit in the plan is the regional distance education network, linked through the statewide BadgerNet interconnection, as the model on which video distance education development would

continue in the state (Wisconsin Educational Network Collaboration Committee, 2002). The plan was based on extensive focus group and survey research across all of Wisconsin's educational communities. The plan report documented expenditures of \$309 million by the state between 1998 and 2002 under the TEACH program for technology (\$167 million), school wiring (\$88 million), video communication services (\$40 million), and professional development (\$14 million). In 2005-07, statewide subsidies of \$17.3 million annually were authorized in the state budget (Wisconsin Legislative Audit Bureau, 2005). This investment of state resources in educational telecommunications, designed to interconnect all levels of education in the state, is of study interest for its size and scope alone.

The state's investment has been motivated by expectations for collaborative programming between institutions – the reason to create communication links between them. Among these expectations was that of expanded collaboration involving schools and higher education. This expectation was voiced in the WENCC business plan in a portion written by members of the Wisconsin Association of Distance Education Networks (WADEN). “If every PreK-16 school and college were on a common ITV platform, the enhanced collaboration possibilities could be limitless. Faculty in the PreK-12 schools, technical colleges, private and the UW system would all benefit from offerings from the UW Colleges of Education. In addition, the ability to share the expertise among all schools could provide pockets of expertise in a wide variety of areas. National and international global connectivity is another area where educational collaboration could be enhanced.”(Wisconsin Educational Network Collaboration Committee, 2005, p. 64).

The research question for this study is, essentially, to explore the extent to which regional distance education networks have served as a means to carry out this vision.

General research question. How well do regional distance education networks serve as a means to develop and sustain collaborative initiatives that meet the purposes of higher education and K-12 members?

Subsidiary research questions were developed to refine and explore the dimensions of the general question. These were developed in the context of the theoretical framework.

Subsidiary research questions.

1. To what extent do new or expanded collaborative initiatives result from the participation of higher education and K-12 institutions in regional distance education networks?
2. What factors contribute to the development of these initiatives?
 1. What factors prevent or limit development of these initiatives?
 2. To what extent do these initiatives meet the purposes of member organizations?
3. Are these initiatives sustained?

2. Selection of a research methodology

In asking how well purposes are met, the essential qualitative nature of the study

is identified. Key underlying assumptions of qualitative studies include:

- reality is subjective and may be seen differently by different study participants
- interaction between researcher and that being researched is essential
- values and biases are unavoidable in the study fabric, and should be recognized and documented
- the research process is inductive; the research design emerges from the process
- accuracy and reliability are achieved through verification and triangulation

(Creswell, 1994)

Qualitative studies are particularly suited to subjects where there is a limited amount of theory and previous research. Kovel-Jarboe, Moore, and other researchers in the field of distance education have identified the limited work and lack of unifying theory in this field. Qualitative studies also are well suited for studies involving relationships that may be ambiguous. Marshall & Rossman (1989) recommend qualitative methods for “research on informal and unstructured linkages and processes in organizations” (p.46). The research question directly addresses the ambiguity in these distance education organizations. These are the two primary reasons for the choice of a qualitative research method.

In considering distance education networks, the broad geographic and multi-organizational structure dictated that the subjects could not be studied in an isolated situation, but required examination in their operational contexts. The boundaries with that context are ambiguous – activities and interests of networks overlap with those of their members. The multiple sources of evidence available potentially included mission statements, strategic plans, agreement documents, publications, meeting minutes, and

interviews with key decision makers.

A variety of research methodologies have been developed for qualitative studies in operational contexts. Those most commonly used in education are basic qualitative study, ethnography, phenomenology, grounded theory, and case study (Merriam, 1998).

From among these, I chose grounded theory methodology for this study.

This approach to qualitative research guides researchers in gathering information about a phenomenon, then processing the information in ways that generate theory from the data (Strauss & Corbin, 1998). The theory emerging from this process is substantive rather than formal, applicable to the understanding and solution of practical problems and needs (Merriam, 1998). Since my research question was designed to provide information to improve practice, the grounded theory message appeared to be a good fit.

Grounded theory research follows specific procedures for analysis of verbal and written data to identify concepts. While there is a great deal of flexibility in its application, there is an overall structure and sequence to grounded theory data collection, analysis, and presentation (Strauss & Corbin, 1998).

Grounded theory methods have, however, come under criticism from some researchers who see a positivist, empirical underpinning, particularly in the model developed by Strauss and Corbin. In concurrence with some aspects of the criticism of this model by Glaser (1992) and Charmaz (2000), I applied a constructivist approach in the grounded theory process. Charmaz (2000) suggested the following necessary components in the constructivist approach:

- going beyond words to seek meanings such as views, values, beliefs, and ideologies

- using a followup interview process, not only to fill gaps in initial understanding, but also to find deeper meanings than those shared in the social formality of an initial meeting and interview
- asking questions derived from the data which are more abstract and aimed more at finding meaning than finding discrete facts
- using tools of writing style, such as rhythm and timing, to actively communicate meaning when presenting findings

The practices recommended by Charmaz were used in the data analysis and followup interviews of the study. I also have strived to follow her recommendations regarding writing style as a means of communicating meaning.

3. Research design

Subjects of the study. I used a nonprobabilistic, purposeful sampling method (Patton, 1990; Merriam, 1998) to select three regional distance education networks in Wisconsin, and from within those networks a group of interviewees from among member institution representatives and network directors. Purposeful sampling uses the researcher's expertise to choose those data sources that are likely to provide the most pertinent information to the study. Selection of sources is based on explicit criteria. I applied the following criteria in the selection:

- Networks included in the study had at least one higher education institution as a member, since this was essential to the purpose of the study. All networks in Wisconsin have K-12 school members, the other essential membership.
- At least one network in the study was required to have been in operation for 10 or

more years. All three of the network studied met this criterion.

- Networks were selected to provide diversity of geography and socioeconomic environment. While geography might have no specific impact on the nature of the network, location and proximity to other educational resources might make some difference. Socioeconomic differences might have a resource impact that affects the ability of members to collaborate. I selected two rural and one urban/suburban network for the study.
- Within each network, I interviewed the network director, a minimum of one key representative of higher education institutions as identified by the network director and the organizational structure, and a minimum of three key representatives of K-12 organizations as identified by the network director and the organizational structure. "Key representative" is defined as a person who is actively involved in the program administration process for the organization's participation in the distance education network, or who has served as an organizational representative on the network governing board.

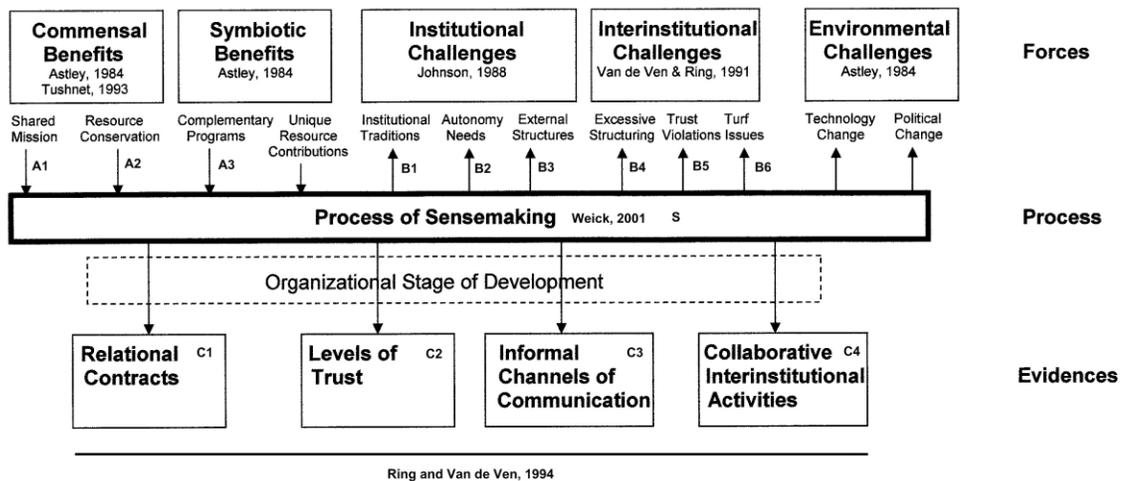
The three networks studied will be identified in this report as the Ojibwa Network, the Menominee Network, and the Sauk Network. I conducted a total of 25 research interviews with participants in these networks over the three year period of the study, beginning in January 2006 and ending in February 2009. A list of the study interviews is provided as Appendix A.

Data collection. The design of the research was shaped by the theoretical framework I developed from the literature. Questions were informed by the inputs and outputs to the organizational sensemaking process. Figure 3.1 demonstrates the

relationship between the framework and the interview questions. The alphanumeric coding in the figure corresponds to the coding of the interview questions used in the research as presented in Appendix C. Note that there were not specific questions directed at technology change, political change, or unique resource contributions. These were instead allowed to emerge from the data gathered in response to other questions.

Figure 3.1

Framework Coded in Relation to Interview Questions



Data was collected from two sources: direct interviews of selected individuals actively involved in regional distance education networks, and selected documents that describe the relationships among network members. Use of two types of data sources provided better opportunities for triangulation, improving the internal validity of the study.

Two sets of guiding questions were prepared for the study. One set was designed for institutional representatives, the other for network directors. While the question sets address the same components of the research framework, they were stated in ways that distinguish the different perspectives of these roles.

The questions were designed in accordance with grounded theory practice. They are open-ended and structured so as to open conversation on a topic, but not direct responses. Questions were changed slightly as I proceeded through the study, primarily to clarify the meaning of one or two terms within the questions and further focus the data collection (Strauss & Corbin, 1998).

The 25 interviews were conducted primarily by telephone, with five interviews conducted in person. Interviews ranged from 20 minutes to 50 minutes in length. All interviews were recorded and transcribed for data analysis.

Selected documents from the networks in the study were examined for evidence of the nature of relationships among higher education and K-12 member organizations.

These documents were:

- The minutes of the governing boards of the networks for the previous three years
- Where available, minutes of the programming planning committees of the networks for the previous three years. In two networks, regular minutes were not kept for the programming planning committees.
- The strategic plans or long term plans of the networks

The development of grounded theory is a process incorporating feedback and revision. I began my research in the Ojibwa Network, a rural network which has the longest history among the three. I then used my case study of the Ojibwa Network to

test, refine, and expand my initial results by moving sequentially to the rural Menominee Network and finally to the urban/suburban Sauk Network.

Data analysis. In accordance with grounded theory methodology, data analysis was carried out concurrently with data collection, providing a constant process of feedback and development through this stage (Creswell, 1994). Transcribed interviews were analyzed through the processes of coding as described by Strauss and Corbin (1998).

The qualitative analysis software NVivo was used throughout the study for data analysis. The data from the Ojibwa Network was open coded to identify categories, resulting in 68 node categories. These nodes were then assigned to categories within the theoretical framework, and this structuring was used to organize the presentation of the case. The data from the subsequent two networks was coded two different ways: directly to the research questions, and to the categories of the theoretical framework. The research question coding structured the presentation of the case, while the theoretical framework coding structured the cross-case analysis.

In addition to the coding and structuring process, memos were the primary analytic tool used in the data analysis process. Memos are used to organize the researcher's thoughts and reactions to the data as it emerges. They provide an ongoing record of the progress of the research. Whenever difficulties were encountered in the data analysis, the "what is happening here?" memo (Corbin and Strauss, 1998) was helpful in creating insights. Memos also evolved into draft sections of the case studies and the cross-case analysis.

Challenges were anticipated in the analysis, and did not disappoint. Expected

challenges which actually were encountered included:

- Disconnections between cause and effect. This phenomenon, in which even participants cannot exactly explain what happened, provided useful information in the Menominee Network case study.
- Interruptions in processes that result in a less than clear picture of relationships—for example, when key personnel change. Such interruptions can result in disconnections in the sensemaking process of the organization, making it less than continuous.

When challenges were encountered, the literature of grounded theory research was very helpful in moving through the issues and on to the next phase of the study.

A great part of the effective application of grounded theory method is the asking of questions about the data. The researcher must approach the study prepared to ask him/herself three types of questions in the data analysis—sensitizing questions, theoretical questions, and practical/structural questions (Strauss & Corbin, 1998).

Sensitizing questions make the researcher fully aware of “what is going on” in the studied phenomena. As noted, this type of question was used in memos during the data analysis.

Theoretical questions ask about relationships, processes, and change over time in the phenomena. Theoretical questions were used in the case studies and cross-case analysis to shape the case narrative.

Practical structural questions concern steps in the study and its progress toward fulfillment of its purpose (Strauss & Corbin, 1998). These questions also were asked, and answers explored, in memos during the data analysis.

In applying each of these types of questions, it was essential that I be prepared to challenge assumptions. If data tends to fit models seen before, instead of feeling comfortable with results, the researcher must ask if the data is adequate, or if there are alternate explanations. If results are in conflict, the researcher must ask if the phenomena is fully understood, or if something is missing. Only the constant application of challenges to the research process can ensure the rigor that is needed for trustworthiness in the study. I strove to challenge my comfort with the results throughout the data analysis process.

Upon completion of initial data collection and analysis, I used theoretical sampling through followup interviews and personal communications with a small number of selected original interviewees. This process is used to fill gaps in the data and explore specific concepts to a deeper level (Strauss & Corbin, 1998).

Presentation of findings. The presentation of study findings evolved into three separate case studies, one for each network, with a cross-case analysis examining the common factors across the networks and the unique factors within each network. In the case studies, descriptive and explanatory narrative is organized within the framework of the research questions. The presentation of the cross-case analysis is organized around the theoretical framework. Quantitative data, in tabular and narrative forms, is used where appropriate to support the qualitative analysis.

4. Trustworthiness of the study

Qualitative researchers have struggled with problems of fitting their research practices into traditional methods of ensuring quality and rigor: validity, reliability, and

objectivity (Anfara, Brown, & Mangione, 2002). These methods assume the controlled environment found in quantitative research, conditions that are generally not available in the qualitative realm. Qualitative researchers have recast the criteria in terms of “trustworthiness” (Guba, 1981) and identified four concepts that better fit qualitative inquiry: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985; Marshall & Rossman, 1989).

A study is credible if it can be said to provide a reasonably accurate portrayal of the subject of the study (Marshall & Rossman, 1989). Theoretical sampling provides a means to strengthen credibility of the study. This built-in review process by a subset of participants provides feedback on the overall accuracy of the portrayal. The primary credibility assurance tool used in this study was review of the cases for factual errors by the respective network directors. Another credibility tool I chose to use throughout the study is direct quotations from the study interviews. By presenting participants’ viewpoints in their own words, I make key portions of the source data available for readers and other researchers to further analyze, compare, and evaluate.

Transferability is a particular challenge in qualitative studies. The phenomena studied are often unique, and the naturalistic approach documents that uniqueness (Janesick, 1998). The intent of qualitative studies is not to generalize findings to a larger population; rather, it is to improve theory and the understanding of practice (Yin, 1994). Transferability can be strengthened in a study through the use of triangulation, in which the concepts derived in the study are identified from multiple sources (Marshall & Rossman, 1989). I used triangulation extensively throughout the case study presentation, with many concepts drawn from two or more interviews.

Dependability of a study is found in the extent to which it accounts for change over time (Marshall & Rossman, 1989). This study was designed so that interviewees focused on a five year period. They were asked to identify changes in relationships during that period, and discuss the effects of those changes. Presentation of the effects of change within this focal period is an important part of the study findings.

Study confirmability is the extent to which the study takes an unbiased approach to its subject (Anfara et al, 2002). A number of techniques can be applied to identify and adjust for bias. First, the researcher must actively examine and be explicit about his or her own viewpoint as the study is approached. My viewpoint is presented in a following section of this narrative. Actively searching for contradictions in the data, and ensuring their inclusion in the results, is another effective approach. Triangulation provides yet another means to work out specific bias, by reinforcing concepts from multiple sources.

All of these methods of ensuring trustworthiness can be strengthened by an explicit documentation of the research process (Anfara et al, 2002). Research must be documented in ways that make it possible for the reader to reach conclusions about the effectiveness of the research. Readers should be able to draw conclusions about the credibility, transferability, dependability, and confirmability of the work. From this they should be able to choose whether to accept or refute the study conclusions.

This documentation can include such elements as tables showing the structure of the research process, demonstration of a chain of evidence leading from research questions through data collection and analysis to conclusions, and documentation of the application of triangulation in the analysis. The reader should not have to simply take the researcher's word that valid research techniques were used; the evidence should be

shown as transparently as possible. I have applied these concepts in the study, particularly in this chapter and the sections just presented.

5. Experience and role of the researcher

In a qualitative research study carried out as a dissertation, the individual researcher serves as the sole gatherer and analyzer of data. The qualitative research paradigm requires identification of the researcher's personal values, assumptions, and biases in the research design.

The researcher of this study was actively involved in the establishment of a regional distance education network, NWECS, in northwest Wisconsin in the early 1990s. I have served on the board of directors of NWECS since 1994, representing the university where I am employed. While actively involved in NWECS governance, and involved in my institution's use of the network, I have not been directly involved in day-to-day management of NWECS.

My experience with NWECS has given me insights in the types of relationships that can exist within a regional distance education network, and in the differing interests of member institutions. I have observed the differing levels of commitment that exist among network members, and I have worked with top administrators as they have made decisions regarding the value of network services. My most significant potential bias was in the direction of the higher education viewpoint, since most of my career has been spent in higher education institutions. In the study I made efforts to counter this viewpoint by constantly examining assumptions, and by being sensitive to the viewpoints of K-12 participants and network directors in the study.

6. *Ethical treatment of subjects*

Since this study involved human subjects, the research design incorporated safeguards to ensure ethical treatment of those involved as information sources. The following procedures were followed to ensure these aims:

- The research proposal was reviewed and approved by the Institutional Review Board (IRB) of the University of Minnesota-Twin Cities, the institution providing academic credit for the study, and of the University of Wisconsin-Superior, where I am employed. In addition, at the request of the University of Minnesota-Twin Cities IRB, the IRBs of four higher education institutions involved in the study reviewed and approved the proposal.
- Participants in the study were provided written or electronic information on the study's purpose and goals in an introductory letter or e-mail. This communication explained the rights of participants and the ways information was to be used.
- A consent form was used to gain the agreement of interviewees prior to the interview.
- Interviewees, their institutions, and their networks are not identified by name in the report. Pseudonyms are used.

7. *Summary*

The research design, shaped by the literature and the development of the research interest, is a qualitative grounded theory study addressing the general research question: How well do regional distance education networks serve as a means to develop and

sustain collaborative initiatives that meet the purposes of higher education and K-12 members?

The study gathered data from three regional distance education networks in Wisconsin, selected for geographical and socioeconomic diversity as well as longevity in operation. Sources of data included interviews of selected institutional representatives within the networks, minutes of network governance and programming groups, and long range or strategic plans.

Data analysis followed grounded theory methods of coding and categorization, memo development, and structuring into case studies of the three networks, with a cross-case analysis. Research techniques to assure trustworthiness included theoretical sampling, review by participants for factual errors, triangulation, linkages between the theoretical framework, research questions, and presentation, and explanation of the procedures used in research.

CHAPTER FOUR

Case Study of the Ojibwa Network

In this chapter, I present and analyze the first of three case studies of Wisconsin's regional distance education networks. These are followed, in Chapter Seven, by a cross-case analysis and discussion of findings in relation to the research questions and the theoretical framework used to develop the questions.

The studies are based on interviews conducted in 2006, 2007, and 2008 with selected participants in the operation and governance of these networks. In each network, I conducted an extensive interview with the network director. In the K-12 school realm, my interviewees included administrators, principals, and guidance counselors. In higher education, I interviewed key participants, including staff and administrators, from technical colleges, two year University of Wisconsin (UW) colleges, four year UW universities, and four year private colleges/universities.

The networks selected for the study were chosen for geographic diversity within the state, as well as urban/rural diversity. Interviewees were identified through identification in network documents and through contacts with network directors. They were selected to represent a cross section of each network's K-12 and higher education organization participants.

I present each case in sections that correspond to the subcategories of my research question, as follows:

1. To what extent do new or expanded collaborative initiatives result from the participation of higher education and K-12 institutions in regional distance education networks?

2. What factors contribute to the development of these initiatives?
3. What factors prevent or limit development of these initiatives?
4. To what extent do these initiatives meet the purposes of member organizations?
5. Are these initiatives sustained?

Within each section, I present and discuss evidence found in the interviews and analyzed through the grounded theory methodology.

To protect the identity of subjects in accordance with human subjects protection policies, the networks, schools, and colleges in these cases are identified by names I have selected from Wisconsin's Native American heritage. No geographical associations are implied in the selections.

Ojibwa Network

The Ojibwa Network has operated in a predominantly rural area of Wisconsin for more than ten years. Its membership includes 27 K-12 schools, a technical college ("Ojibwa Technical College"), a four year University of Wisconsin campus ("UW-Ojibwa") with on-campus enrollment of about 5,000 students, a two year University of Wisconsin College ("UW-Ojibwa College"), and a Cooperative Educational Service Agency (CESA) (Wisconsin Association of Distance Education Networks, 2009). The largest community within the geographic area served by the Ojibwa Network has a population of about 8,500. Most of the members are located in small towns, with populations in the 200-1,000 range. Some of the Ojibwa Network members are separated by well over 100 miles.

In a typical term during this study, Ojibwa Network K-12 schools averaged 7.5 periods of courses in a potential 9 period day, a very high level of utilization. One reason for this high utilization may be a policy that requires every network member school to provide at least one course per year to other network schools. Schools that do not comply are required to pay an additional fee of \$3,000 to the network (“Ojibwa Network”, 2007a). The primary activity in the Ojibwa Network is sharing of high school courses among school districts. Subject areas regularly offered include languages — French, German, Spanish, and American Sign Language — history, writing, literature, and mass communications. Many of the courses offered are in the Advanced Placement program. In addition to these common high school courses, less traditional offerings include forestry, animal care, and meteorology.

The Ojibwa Network has two full-time staff—a network director and a support position. The network director has been in that position since the network began operation in the mid-1990s. The network office is at the regional CESA, which provides a variety of educational services to the K-12 schools within its district. The CESA views the network as one of its professional development programs.

1. Interinstitutional Activities in the Network

In this section, I present the activities identified in my research involving relationships among K-12 and higher education institutions. These are presented in order of activity level, from high activity to low activity.

The Wisconsin Youth Options Program. The major activity involving collaboration among higher education members and K-12 members in the Ojibwa

Network has been provision of courses by all three of the higher education members to K-12 students under the Wisconsin Youth Options Program. In three of the four interviews with Ojibwa network staff and K-12 personnel, this program was the first mentioned when asked about higher education collaboration.

Since 1991, Wisconsin law has made it possible for high school juniors and seniors to take classes from Wisconsin postsecondary institutions for both high school and college credit (Wisconsin Legislative Reference Bureau, 1997). The law requires the public school district to pay the UW campus, technical college, or private college tuition, as well as costs for books, materials, fees, and travel. The law is designed to encourage capable upper division high school students to get a head start on college. Students must have maintained at least a B average and go through an application process with the local school board.

The guidance counselor of the “Windigo” school district in the Ojibwa Network provided a vivid description of the kind of needs the Youth Options program was designed to meet. “As a small district, we struggle with diversity of course offerings. And what you run into here... is as the student hit their senior year, they were taking classes that really meant nothing to them. They called that senior slough. Because easy schedule, packed with all the simplest classes they could find. You’d try to turn around, say what about this or what about that other class, they could reasonably argue that either they’d already taken them or they really weren’t relevant.”

The program, first known as Postsecondary Options and now called Youth Options, was not specifically designed with distance learning in mind, and it is likely that most Youth Options students in the state walk or drive to their nearest college or

university for courses. The Wisconsin Department of Public Instruction does make clear in its literature that distance delivery of courses through ITV, Internet, or correspondence is an acceptable form of instruction under the program (Lewis, 2007). Youth Options thus is a ready-made framework for collaboration among K-12 schools and higher education that can be used within a distance education network. The law, found in Chapter 118.55 of Wisconsin Statutes, is very specific concerning the terms under which school districts must provide funding for Youth Options courses. It permits districts to go above and beyond the law to provide additional course opportunities, and prohibits them from using lack of resources or curricular preferences to restrict students from taking higher education courses.

Youth Options programming has been actively used within the Ojibwa Network. Before describing the data for this instruction, it will be helpful to discuss the nature of the network course schedule. Course schedules on distance education networks reflect the differences in course scheduling approaches used by their respective members. In the Ojibwa Network, most courses used by K-12 members are scheduled for one period and meet daily. Higher education courses provided to K-12 schools also usually are scheduled for one period, but usually do not meet daily; a three day per week or two day per week interlocking schedule is most often followed, permitting delivery of two different college courses within one period each week. Courses may be received by as few as one, or as many as six or more schools at the same time. In the description below, for example, a course taught by a higher education institution and received by four schools is counted as four course periods, regardless of the number of days per week the course meets.

Of the 195 course periods scheduled weekly at Ojibwa Network K-12 schools in the spring of 2007, 36 course periods, or 18.5%, were Youth Options courses provided from higher education members to K-12 members. Of these, two courses were provided by the four year UW member, four courses by the technical college, and five courses by the two year UW college. In the spring of 2008, the four year UW provided one course, the technical college three courses, and the two year UW again provided five courses (“Ojibwa Network”, 2007b).

In comparing the Ojibwa Network course schedules for 2006-07, 2007-08, and 2008-09, a pattern of reception of Youth Options courses emerged. That pattern is exhibited in Table 4.1. Each cell shows the number of schools accepting that quantity of Youth Options courses for a given academic year.

Table 4.1 Youth Options Course Reception by K-12 schools, per term

(“Ojibwa Network”, 2006a, 2007b, 2008a)

2006-07=26 schools, 2007-08 and 2008-09=27 schools

Year	None	1	2	3	4	5	6	7	8	9	12	14
2006-07	11	2	2	0	0	4	3	2	2	0	0	0
2007-08	11	6	0	3	1	1	0	2	9	1	1	0
2008-09	11	3	1	3	1	1	2	1	1	2	0	1

About 40% of the members did not use any Youth Options courses in a given year. Ten schools did not use any during the three year period. On the other end of the

spectrum, one school was consistently the highest user of Youth Options courses, and two others were consistently the next highest each year. The remaining schools showed moderate usage of Youth Options courses; with a few exceptions, these tended to follow the same schedule each year. The dichotomy between non-users and high users warranted further exploration, which will be described later in this case.

The Ojibwa Network director described a collaborative process of program development of Youth Options courses with the four year University of Wisconsin member campus and the K-12 schools, carried out through the network's program planning meetings. "They survey, they send out a big long list of courses that they feel they can offer from the university, and they get a feel from the counselors of what it is that the K-12s would like to take, and then we plug those in." Furthermore, the university's efforts to meet school needs were seen as proactive in spite of bureaucratic challenges. "They're real go-getters and they have lots of ideas and they really want to work with the schools and they listen very well, whatever the schools say, you know, isn't there anything in computer programming that we could run on the network, which would be a harder one to offer, sure they go right back to the deans and they figure out, you know, what kind of course could they actually do with lectures three days a week and do the rest in a lab, and they'll come back and put it together. So they're very good." School counselors were essential players in this process, identified by the network director and K-12 administrators as the key people with information about student interests and program needs within the school.

Higher education staff provided similar comments on the strategies used to plan with K-12 schools in the network's programming committee. A continuing education

staff member from UW-Ojibwa described efforts to demonstrate willingness to collaborate. “And the other thing that we’ve worked hard on, my colleague and I worked hard on the last year to year and a half is trying to make sure that we can show to the schools that we will be responsive to them. That if, I can’t go out and just, when we’ve only got four slots a year, I can’t go out and say we’re going to offer these four classes, when I don’t know what it is the high schools want. My chance of picking the right four are minimal. And so I’d much rather hear from the schools what kinds of classes they want me to look for for the next year. And then I’ll work my tail off to try to find things that mesh, that we can do within those time frames, that you can do within the constraints of an ITV classroom, with the faculty we have, those kinds of things, that we can meet their needs.”

The Youth Options Program as implemented in the Ojibwa Network thus was providing programming desired by a subgroup of the K-12 network members. For these schools, benefits included integration of a more challenging curriculum for upper division students, as well a a benefit for their parents in the form of college credits completed by the student and paid by the school district before the actual beginning of the student’s college career.

For the higher education members, Youth Options programming offered a means to introduce area high school students to their institution and perhaps develop future enrollments. In the view of the UW-Ojibwa continuing education staff member: “I think it’s a great opportunity to introduce students to what a college class is like. And you know we, I haven’t followed up with admissions to find out how many of those students who’ve been admitted as youth options students actually enroll here. And so I couldn’t

tell you that percentage. But it certainly is a great way to introduce students to what college life is like, so that they're not totally blown away when they come back, come to college, whether it's here or someplace else." Programs also provided revenue for the higher education members, essential to self-funded continuing education departments.

Staff development and adult programming. Evening programming offered on the Ojibwa Network was a mix of options directed at several audiences, but with a significant component of staff development coursework directed from higher education toward K-12 teachers and professionals. The course and program array was as follows:

- Four courses from a UW campus outside the network for teacher professional development
- Two courses from the CESA as afterschool preparation for high school students
- Two courses from the technical college for community members
- One course from UW-Ojibwa for teacher professional development
- One course offered by a school community education program
- Three one-time programs from school community education programs
- Two one-time programs offered by the CESA

("Ojibwa Network", 2008b)

According to the Ojibwa Network director, the planning process for evening programming was less active than that used for the day schedule, and the course offerings reflect a combination of motives, some created through collaboration among the members; others, such as the offerings of the external UW, a market offering in response to perception of need in the area. The director stated the network had seen a decline in evening programming in recent years, and had set a goal of increasing this programming.

The retirements or departures of key personnel, particularly at the technical college, were given as the reason behind this decline.

Virtual field trips. Virtual field trips use the audio and video capabilities of the distance learning system to take students to remote locations for specific learning experiences. Virtual field trips are offered to schools by museums, government organizations, art centers, and similar organizations, including higher education (WWLEARN Network, 2008). Two of the Ojibwa Network K-12 interviewees and the network director described virtual field trips as an important service provided by the network. Particularly mentioned was a program from a Chicago university medical center that gave students the ability to observe a live open heart surgery in their classrooms. Another series of science-related programming was provided by Ball State University (“Ojibwa Network”, 2007c).

While this programming was seen as an important learning resource provided through the Ojibwa Network, its development and presentation was not a collaborative activity. Rather, the programming was designed by the higher education institution, then offered widely to distance learning networks as well as individual schools with Internet video access. Essentially, this was a market relationship, with the network paying costs to the provider to access the program. Other, similar programs may be offered by higher education institutions as a means to raise awareness of the institution in the minds of potential future students.

Other collaborative initiatives. The network director described a collaborative initiative planned by the four year UW in collaboration with several K-12 schools, but not carried out. Several faculty in a science area worked with science teachers to plan a

grant proposal for an advanced chemistry class for high school students. The grant would have funded the K-12 teachers to spend time with the university faculty preparing to offer the course. The course would be taught collaboratively, with the university faculty as lead instructors and the several K-12 instructors as lab teachers.

The network director felt that this planned course did not come to fruition because of a combination of process issues at the UW and personnel change. The UW staff did not specifically mention this example, but described issues with long term instructor commitment in terms of adhoc instructors who would leave for better employment, versus the more consistent commitment of regular tenure track faculty to distance learning. These issues will be discussed further in the following section on collaboration barriers.

Another project described, but not yet implemented, was being designed to meet needs of early career teachers for completion of permanent licensure under Wisconsin's PI34 law, also known as the Wisconsin Quality Educator Initiative. This law took effect in 2004. It requires those who receive initial teacher certification to complete a professional program within five years for permanent licensure. This program is guided by a professional development team comprised of school administrators, experienced teachers, and higher education faculty (Wisconsin Department of Public Instruction, 2008). The university envisioned using the Ojibwa Network for meetings of the professional development teams, reducing the need for travel by team members. This use, if implemented, would meet needs of these early career teachers as well as those of the school districts employing them and the university supporting their program.

2. Factors Contributing to Development of Initiatives

The Network as a Web of Relationships. From examination of the bylaws, board minutes, annual reports, and newsletters of the Ojibwa Network, along with comments made in participant interviews, a sense of how the network functions can be approximated. The network has an elected board of seven directors representing its twenty-seven member organizations. One seat on the board is reserved for a higher education member. Directors serve three year terms and cannot be re-elected to a consecutive term, ensuring a regular rotation of directors. The board holds face-to-face meetings quarterly (“Ojibwa Network”, 2006b).

Analysis of the network annual goals for 2005-06, 2006-07, and 2007-08 shows a focus on technology and administrative issues. A total of six goals were technology-related, four concerned quality improvement, two each for K-12 programming and higher education programming, one for community programming, and one for integration of online and ITV course delivery (“Ojibwa Network”, 2005, 2006c, 2007d). Analysis of board meeting minutes for the same period shows that the board addressed 35 administrative agenda items, 16 technology items, 16 K-12 programming items, nine items related to membership, and seven related to higher education programs and activities. The board’s functions were concentrated on policy development, administrative oversight, and allocation of resources, primarily for technology needs and upgrades.

Network participants generally identified the programming planning group, rather than the governing board, as the place where connections were made between higher education and K-12 members. This group holds semiannual meetings through the video

network to plan the network course schedule. A K-12 guidance counselor gave an example of interaction between K-12 and higher education members. “The planning meetings we have, for instance this fall we were at one, and I chimed in with a suggestion that it would be neat if we could offer an introduction to philosophy class on the ITV network, and UW-Ojibwa College, the dean of student services there, kind of happened to know that they had a new philosophy instructor on board, and he jumped right on and said absolutely, we can offer that. So I’ll have three students next year taking introduction to philosophy from UW-Ojibwa College. And that’s the kind of collaboration that takes place. And I think that they’re very responsive to the requests and the opportunities.”

These meetings served as a means of establishing informal contacts and personal familiarity among the different institutions. These informal relationships provided the medium for additional collaborative ideas to be shared between the institutions. From the perspective of the UW-Ojibwa continuing education director, “I think the biggest change is that we’re actually working with them more than we used to. You know, we’ve been doing these high school classes, and we’ve tried to do more with teachers, but I think it’s brought us closer as far as, you know there’s more offerings. If I would look back and say, OK, we did this many things this year, and this many things this next year, I just think it, we seem more accessible. It’s always easier to call somebody that you know and offer programming, or would try to offer the kind of programs you want. So I think it’s a perception of accessibility that’s really improved, because we’ve just started doing more things.”

Several K-12 network representatives praised the network staff for their effective

communication and their efforts to carry out network initiatives. Their role was characterized as essential to the effectiveness of services and the network's success in recently attracting two new member schools.

With board meetings held on a quarterly basis, programming meetings twice a year, and a regular rotation of directors, the Ojibwa Network is a geographically dispersed, loosely coupled organization. E-mail communication through the network director is a regular tool to keep in touch and share new ideas. Since the K-12 schools are members of CESA, the personnel there have other professional connections with each other that are not shared by the higher education members. The Ojibwa Network organization, as a concept, is a web of relationships that crosses interinstitutional boundaries. By providing a venue for communication, it encourages collaboration across these boundaries.

Desire for expanded curriculum. Both K-12 and higher education representatives described the need for access to educational resources as a motivator for their activities in the Ojibwa Network. The majority of network activity was among schools sharing courses with other schools ("Ojibwa Network", 2006a, 2007b, 2008a). The Youth Options, staff development, and virtual field trip programming offered by higher education institutions provided further ways to diversify school curriculum. For some schools, this was an expected service of the network. For others, it was an unanticipated benefit, as described by the superintendent of the "Muskeg" district: "I don't think we expected the connections to colleges, having college courses offered. I don't think we expected to hold meetings, you know, on our sites. I think like I mentioned before, our expectations were basically for daytime courses being offered to

our students at school. So that's been a pleasant surprise for us. A pleasant surprise that you could do even more than that, start involving universities, higher ed, meetings.”

Cost Reduction. Both K-12 and higher education network members identified cost savings, particularly in travel expense and time, as an incentive to collaborate through the Ojibwa Network. From the standpoint of UW-Ojibwa, the network was a means to improve its offering of staff development programming for school personnel without incurring high travel costs: “I think we thought this would be a good way to reach some of our partners without having to spend so much time driving. One of the things we felt it's our responsibility to work with our region. Now if we perceive ourselves as a regional institution, a regional university, we need to work with our partners, but some of those partners are an hour, two hours, three hours away, kind of depending on where we're thinking, and we said it would be important to be able to connect with them. We thought that we'd be able to serve those audiences better. And this new technology, at that point, seemed like a good way to do it.”

School personnel also saw the benefit of investing in a system that would open new curricular opportunities for their students and staff without requiring travel. A guidance counselor described using the Ojibwa Network to take a higher education course to renew professional certification. Without participation of the higher education member, it would have been necessary to drive more than two hours to take the certification coursework.

Entrepreneurial strategies. As described earlier, one K-12 school district, Windigo, was the highest user of Youth Options courses in each of the academic years examined in the study. Both the network director and the UW-Ojibwa continuing

education staff identified this district as having a distinct approach in its use of the network. This approach was explored through interviews with the guidance counselor, school superintendent, and network director.

In 1998, Wisconsin implemented an open enrollment program for all public schools in the state. The program permits Wisconsin students to apply for enrollment in any public school, regardless of district residence. No tuition is charged for out-of-district enrollment. The state aid funds associated with each student, typically in the \$4,000-7,000 range, move with the student to the district of enrollment (Wisconsin Legislative Audit Bureau, 2002).

Windigo serves a district both relatively small in geographic size and population. The school is located in a village with a population of about 500. The district enrolls about 325 students, with 110 in the high school. Nineteen miles away over good roads is the largest community in the area, a city of 8,500 with a high school enrolling 800 students, offering a substantially broader curriculum and up-to-date facilities.

The Windigo superintendent began his position two years before the open enrollment law took effect. As he put it, "Open enrollment was supposed to kill us." There was discussion statewide about the impact of the new law on smaller, more resource-poor schools.

The Windigo administration and school board chose to strategically address the challenge of open enrollment. "Our board and district has taken the position that we will survive by being better, and we will survive by being the best school in the area." Distance learning would be a key element in this effort. The school would promote the fact that upper level high school students could attend college classes in this small school

at no expense to parents.

The Windigo superintendent was an active marketer of this school asset to prospective students. “When I give tours of the facility here and I come to the distance learning room, I oftentimes use the terminology, it is the great equalizer among schools. Because as we might not be able to offer advanced physics or calculus class, we’re able to tap into that. Now with the network being so expanded, those types of high school offerings are absolutely unlimited, as are some of the enrichment things.” He and his staff promoted access to college courses to visitors from surrounding districts, as well as to their own district population. “We’ve had a couple of area schools, one eliminated distance learning for a year. We made certain when any parent came here from that district for open enrollment, we spent a lot of time in the distance learning lab. They would understand what we’re doing. We openly recruit the kids for distance learning. The guidance counselor sits down with every single family starting in 8th grade. He starts recruiting kids in 8th grade. And that’s definitely what we see with some of our neighbors, where they simply do the legal postings of things that are available on the youth options. And the word gets out that we’re recruiting kids for youth options. Parents like that.”

In separate interviews, the Windigo superintendent and guidance counselor each stated that this strategy had been a success for the school. The guidance counselor asserted that nearly every college bound high school graduate in recent years had taken at least one course through the Ojibwa Network. Graduates typically had nearly a semester’s coursework completed before entering college full-time. The school was not just interested in college courses, but in courses that would challenge the senior students

and make their final year of high school productive.

This success would not have been possible without school board support for the tuition expenditures required by the Youth Options Program. “We’re going through some significant budget issues like every school district. When we start identifying areas in last year’s budget we overspent, we overspent by \$20,000 what we had put in the budget for Youth Options. When the board saw that, they said ‘good investment.’ The guidance counselor indicated there had been little change in the school board membership over the period of involvement in the network. This board stability may have facilitated the level of commitment to this program.

Both the superintendent and guidance counselor felt the strategy had increased the school population through open enrollment. The superintendent stated that in the previous year, nine students in the district had enrolled at other schools, while fifty-nine residents of other districts had enrolled at Windigo.

The superintendent of the “Ashegon” district, which ranked second to Windigo in its use of Youth Options, described a similar purpose in that district’s use of ITV courses. Ashegon is the most geographically isolated of the Ojibwa Network schools, located in a small town of about 650 residents. The superintendent stated that Youth Options courses were a primary interest of the district in participating in the network. While Ashegon did not take the strong marketing approach used by Windigo, it made use of the program to connect its postsecondary-bound students with higher education while completing their high school education. “You know, there is a core group of kids who are beginning to see that they can take classes during their high school year that will give them credits for

when they get out of here, and they're taking advantage of that. It's been slow, but it's happening."

3. Factors Preventing or Limiting Development of Initiatives

When asked about limitations of the Ojibwa Network as a mechanism for developing collaboration, participants in both K-12 schools and higher education consistently described scheduling issues as the first obstacle. The category of "scheduling" could be separated into several components:

- Access limitations due to classroom availability
- Bell schedule matching
- Limitations of the network technology

Access limitations. The member K-12 schools of the Ojibwa Network each had one classroom equipped for ITV instruction. The higher education members had more: UW-Ojibwa with three classrooms, UW-Ojibwa College with two, and Ojibwa Technical College with up to five classrooms that could be flexibly connected to one of the several networks used by the technical college.

The single classroom in each school means the school can receive or teach one course or program at any given time. As the Ojibwa Network developed, up to 9 courses or events might be offered on the network at any given time ("Ojibwa Network", 2008a). Furthermore, since the network was interconnected with other regional distance education networks statewide through the state's BadgerNet system, the school might be interested in other curricular offerings from these external sources.

Costs, and available school space, were the main issues mentioned when adding

additional network classrooms was considered. The Ojibwa Network director described a recent effort to add an additional, lower-cost, portable classroom to member schools.

“The schools had an opportunity to get a second video classroom, and half of my schools, 15 of them, wanted to go with a second classroom, until they found out the additional costs that were going to be involved with all the cart and whatever...then we were down to five once they knew they had to pay \$3000 more a year, and the cost of the cart was about \$15000. So once they knew that was going to be the expense, then we were down to five. Then after they found out it couldn't be put, a lot of them wanted it to be in their elementary school or their middle school, and it had to stay in their high school as a managed site, now I'm down to two.” Provision of communication service at a different school building in the district would have been prohibitively expensive for the member schools, limiting their ability to offer courses and programs for middle or elementary students. A portable classroom was a way to accommodate the space issue, eliminating the need to dedicate an additional classroom full-time to ITV courses.

By the fall of 2008, the network had begun preliminary use of portable equipment at five locations, using some additional digital communication bandwidth provided as part of the BadgerNet contract, but not previously utilized in the network (“Ojibwa Network”, 2008c). This new implementation promised much the same functionality as the earlier portable equipment explored by the network, but at a much lower cost.

Bell schedule matching. Each K-12 school, college, and university has the ability to set its own start and end times for class periods. The Ojibwa Network director described the process by which the network arrived at its own schedule. “We run ten time periods a day, we start at 7:30 and we end at 4:30, and we have specific times, at one

time we sent out a whole bell schedule of everybody's time periods, and when they start and when they end, throughout, and then we picked out one for our network that was most like most of the schools, but probably not identical to any school. So then everybody, the kids have to get out of class early or get back to class late, or whatever it is, everybody kind of gives kids passes and they make adjustments to get to that timeframe." The Muskegon school superintendent listed this schedule issue as one of the most significant obstacles to the network. " But after your room and your equipment, the next biggest factor is coordination of time, that you're involving several other sites, this takes a great deal of coordination to make sure that your times match that of other school districts. Every school district starts at a different time. Their periods when students change classes are at different times...so that's a constant coordination problem that comes up from year to year."

The bell schedule poses a particular challenge for UW-Ojibwa, the four year UW campus, due to its decision to schedule its Youth Options classes to match the university's bell schedule. This scheduling permits campus students to attend the class at the same time high school classes are attending via the Ojibwa Network. Combining campus and Youth Options instruction in a single class meeting is a cost savings for the university. However, the university's schedule and the Ojibwa Network schedule match only for two periods per day, so the university offers a maximum of two Youth Options courses daily, and only on a Monday-Wednesday-Friday schedule. The network director would like to see additional Youth Options courses offered by UW-Ojibwa, but this scheduling and fiscal decision prevents it. UW-Ojibwa College and Ojibwa Technical College do not follow this practice, instead offering classes that are exclusively delivered

to K-12 students, with no students in the university classroom, or in some cases, taught by a faculty member who goes to a school classroom.

The difference between the K-12 calendar and the university calendar also poses a challenge for schools. University classes typically end each term earlier than K-12 classes, and have breaks that do not match the school calendar. Schools must find something for students to do for those days and weeks when their university class has ended but high school classes are still in session.

Network technology and functionality limitations. Another aspect of scheduling limitations involves the number of classrooms that can be effectively taught at a given time. Most of the Ojibwa Network K-12 classrooms are equipped around the concept of four classrooms interconnected for a class. This was a standard configuration adopted to fit the previous version of the statewide BadgerNet technology. The new technology, implemented in 2005, no longer has this limitation, but most of the K-12 schools still follow it. Even for those courses and programs that have gone beyond this customary limit, there is a functional limit of the number of classrooms that can be effectively taught by one instructor or presenter. Much like the enrollment limits placed on traditional courses, instructional television courses must have a limit to the number of classrooms that can be effectively served. That limit is sometimes lower than the number of schools with an interest in participating.

Tuition cost. While K-12 members such as Windigo and Ashigon were strongly interested in obtaining coursework from higher education partners, ten districts did not use any of this coursework during the study period. The network director and UW-Ojibwa continuing education staff identified concerns about the cost of paying higher

education tuition from school district budgets, as required by the Youth Options law, as the barrier. It was pointed out that while schools are required to make eligible students aware of the Youth Options program, they are not required to communicate about specific opportunities, nor to schedule courses at their school. The Windigo guidance counselor contrasted the approach taken by his district with that of some other members: “They look at me and ask, ‘how can your school continue to pay tuition for these classes for these students?’ I know the one guy up in ‘Wabasso’, for example, he just wishes he could do that. He feels like he’s hamstrung, because he can’t, he’s not allowed to offer those classes on his network because of the expense involved.” The tight nature of school district budgets is well-known across rural Wisconsin, as is the escalating nature of higher education tuition. Districts not involved with Youth Options through the Ojibwa Network may have decided costs did not justify outcomes, or that paying for higher education courses are not part of their mission, or perhaps that students can better obtain Youth Options courses by traveling to a nearby college or university. The Muskeg superintendent mentioned that his students drove to UW-Ojibwa College for classes.

Higher education institutional issues. The network director, UW-Ojibwa continuing education staff, and several K-12 personnel described the need for significant effort of the UW-Ojibwa staff to obtain faculty participation and administrative support for the courses provided by UW-Ojibwa to the Ojibwa Network schools. The network director stated, “It’s hard, the bigger the institution the harder it is to get people to move on something and move on it fast, cause everybody has to agree to it and then of course the budgets are all set a year ahead of time and everybody doesn’t believe in distance learning, and then you know sometimes the faculty isn’t willing to teach on the network,

and so when they go in there and actually get a course on our network, I know they have made 30 phone calls, you know, in order to make all of those connections, all of the things happen.” Interest would also sometimes wax and wane as personnel changed. UW-Ojibwa personnel said the tendency to use non-tenure track instructors for distance learning courses had been an issue. “We really want to try to get the classes taught by regular faculty and not adhoc faculty...we’ve got five schools that have indicated an interest in taking a class, the person that committed teaching it was an adhoc person and he’s gotten a better offer someplace else, and so he’s not available.”

The example given previously of the science programming project, planned but not brought to fruition, was another case of personnel change and perhaps the lack of higher administrative commitment to this type of program using the Ojibwa Network.

Ojibwa Technical College also had institutional needs which were coming into conflict with course sharing with the schools. As described by the college’s distance education director, assigning instructors and classrooms to teach courses among the several Ojibwa Tech campuses was always the first priority: “Things happen at Ojibwa Tech as far as instructors and adjunct faculty rolling into full time and not being able to provide even enough classes at Ojibwa Tech for soc and psych and other classes may go, where we have to start, stop providing as much to our sister networks as to we have to keep it in house. So then that’s when they’ll go to, you know, other higher ed institutions to get those classes. And I think we’re running into that a lot coming this next year with the (Ojibwa Tech) structure and the increased use of distance learning district wide here, is we won’t be able to offer so much to our K-12 sister member networks.” The college would also be affected by the retirement of a longtime faculty member who had been

dedicated to teaching school students. It was uncertain whether the position would be filled, or if temporary replacements would be agreeable to teaching through the network.

In comparing collaboration with the higher education members with work with K-12 schools, the network director felt that the schools could respond to or implement a new idea much more quickly. “The K-12 world, we could send out an e-mail, and get students do a little survey, find out what students are ready to go, and we could put it on the schedule next year. You know, it’s just a little, because of bureau, because it’s not such a big institution, it can make decisions quicker, and just get things off the ground.”

A technology decision made at UW-Ojibwa at the time of the new BadgerNet implementation in 2005 affected their compatibility with the technology used in the Ojibwa Network. While courses could continue to be delivered, they were displayed differently on the TVs in th classroom than those from other sources. Technical problems also interrupted classes for several months following the new network implementation, due in part to the difference in the UW-Ojibwa system. Staff expressed frustration with the problems, but pointed out that this was a fiscal decision. Under the Wisconsin TEACH program, communication services for K-12 distance learning are subsidized to bring the cost for school districts to \$250 per month (Wisconsin Department of Administration, 2008). The unsubsidized cost which the university would pay for the same service is \$2,250 per month. UW-Ojibwa decided to move to using its existing Internet access to deliver video to the Ojibwa Network, saving funds but recognizing that there would be compatibility issues. The underlying factors in these decisions will be explored further in the case study of the Menominee Network, where they resulted in a greater impact on collaborative programming.

Duning et al (1993) describe the centrality of distance learning programs to institutional mission as an important factor in their effectiveness. The challenges faced by the continuing education staff at UW-Ojibwa resonate with the issues described by Duning when distance learning programs are closer to the fringe of institutional initiatives.

Technology Change. In the greater educational and societal environment, the emergence of the Internet as an integrated, near-universal communication system raised questions for some Ojibwa Network members as to the future direction of regional distance education networks. Delivery of online courses and streaming video, with the advantage of scalability to simultaneously serve hundreds of learners, seemed to some to be a solution to the access, bell schedule, and technology limit issues of the interactive television network. Others, including the network director and UW-Ojibwa continuing education staff, saw the two approaches as complementary and serving different purposes. Online learning was characterized as effective for independent learners, ITV for those who benefited from gathering as a group with a teacher, and both technologies functioning together to support learner activities with materials and communication tools. The sense that the Internet might soon provide something new and better than the Ojibwa Network was definitely affecting how a number of members thought about collaborative network initiatives.

Other issues. A practical obstacle to collaborative coursework arose in an effort between the Ashegon district and UW-Ojibwa. The school had requested a film studies course. When the course was in preparation, the instructor realized that a significant amount of the course consisted of viewing R-rated films, which could not be shown to a

high school class. The instructor considered other substitutions, but ultimately decided that these academic compromises would not be acceptable, and the course was cancelled.

4. Meeting the Purposes of Member Organizations?

Responses of K-12 members. All of the K-12 representatives interviewed in the Ojibwa stated that the network had produced the results anticipated from membership. Specific results mentioned included expansion of the school curriculum, access to enrichment programs such as virtual field trips, development of relationships with higher education representatives, the opportunity to teach courses that also served other school districts, and access to more challenging coursework for upper level students. Several unanticipated results were described. One superintendent was pleased that students in his school had made friends in other school districts through their shared courses on the network. Another attributed the formation of a countywide alternative school to the relationships formed on the network board. Knowing the name and face of an instructor at UW-Ojibwa College was described as an incentive for rural students to think about college as a future option.

Responses of higher education members. Representatives of UW-Ojibwa provided a positive, but qualified, response to inquiry about meeting institutional expectations. Among the positives were the opportunity to introduce high school students to the academic side of college life, with the possibility that the student might enroll at the university in the future. The financial results of membership were satisfactory to the university. One representative had envisioned more active use of the network to communicate with others and deliver courses and programs statewide and

perhaps worldwide; that vision had not come to pass. Frustration with the bell schedule limitations was also expressed.

The UW-Ojibwa College representative described the network membership as a vehicle to a closer working relationship with the schools. The membership had resulted in student enrollment at the college. This was the college's goal and primary reason for joining the network.

The distance education director at Ojibwa Technical College felt the college received benefits from interacting with potential future students in the schools. Course offerings to the Ojibwa Network had grown in number and diversity, although personnel change and college priorities might change that direction in the future.

5. *Are initiatives sustained?* The Ojibwa Network has developed an active and effective Youth Options program involving 60% of its K-12 membership and all of its higher education members, with about 15% of its K-12 schools highly engaged. Its use as a staff development system for schools, a source for enrichment programming through virtual field trips, or as a community education system, is all at a much lower activity level, but courses and programs in these categories have been offered consistently over the network's history of more than a dozen years.

The development of new types of collaborative programming has not been sustained, as seen in the example of the science program planned but not carried out. As described, that planning did not go forward due to a personnel change at the university while awaiting funding.

While a single example, this demonstrates the challenge of initiating a new

program while functioning simultaneously within the loosely coupled environment of a geographically and organizationally dispersed distance education network, and the loosely coupled environment of a university.

6. Summary of the case

Collaboration among higher education and K-12 schools in the Ojibwa Network is primarily built around the Youth Options framework, serving a significant subgroup of its members and meeting the needs of its member organizations. Collaboration on staff development programming is at a very modest level. Virtual field trips are used in the network, but do not involve much collaborative interaction between the schools and those providers that are from higher education.

Incentives to collaboration include the function of the network as a loosely connected, but active structure that brings together representatives from K-12 and higher education institutions. Key in these connections are the programming group of guidance counselors and higher education representatives, as well as the network staff. The desire for expanded curriculum and the opportunity to reduce travel time and costs are important motivators for all members. One K-12 member has found an entrepreneurial opportunity to maintain and increase enrollments and revenues by actively promoting its higher education relationship.

Barriers to collaboration include scheduling issues: access limitations due to limited facilities and cost to scale up capacity, bell schedule and calendar incompatibilities, and the limited scalability of the video communication system. Youth Options programs are not offered in some schools due to district budget concerns. The

four year higher education partner faces institutional challenges in obtaining necessary academic commitment and resources to respond to distance learning program needs. Technology issues with the higher education partner reflect the turbulent technology environment around the Internet and its rapidly changing capabilities. Some partners see these as changing the need for the distance education network, while others see both communication systems as evolving and complementary.

K-12 representatives were satisfied that network membership had produced expected results, particularly course sharing among K-12s, access to enrichment resources, and access to more challenging coursework from higher education for upper level high school students. Higher education representatives were generally satisfied with the results of network membership, noting connections established with high school students, and financial results. There was some dissatisfaction with the network's scheduling limitations and as a conduit to broader course and program distribution.

The network has sustained long term higher education-K12 collaboration for Youth Options programming and limited staff development, but has not facilitated any other significant collaborative program development.

CHAPTER FIVE

Case Study of the Menominee Network

The Menominee Network is located in a geographically isolated area of Wisconsin. The area is similar in its rural nature to that served by the Ojibwa Network, but urban areas are more distant, and there are fewer major highways. The largest community within the area has a population of about 9,500.

The network has operated for more than ten years. Its membership includes 23 K-12 schools, a technical college (“Menominee Technical College”), and a Cooperative Educational Service Agency (CESA) (Wisconsin Association of Distance Education Networks, 2009). A four year University of Wisconsin campus (“UW-Menominee”) with on-campus enrollment of about 5,000 students is located in the area and was a member of the network from its founding in the mid-1990s until 2005. A two year University of Wisconsin campus is also located on the geographic edge of the network, but has not been involved with the network (“Menominee Network Director”, personal communication, September 23, 2008).

In a typical term during this study, Menominee Network K-12 schools shared or received 2.5 periods of courses in a potential 8 period day (“Menominee Network”, 2008). The primary activity in the Menominee Network is sharing of high school courses among school districts. Subject areas regularly offered include languages – Spanish, French, German, and American Sign Language – AP English, AP history, AP calculus, AP biology, psychology, anatomy and physiology, accounting, and business and consumer law. AP art history and computer-aided drawing are distinctive offerings on

this network (“Menominee Network”, 2008).

The Menominee Network has one full-time employee, the network director, who is based at the regional CESA. Part-time staff support is provided by the staff in the CESA instructional technology unit. The network director was hired by the original 12 member consortium in 1997, after the consortium had been formed, but before implementation began, with responsibility to implement the technology, organize network coursework and offerings, and direct network operations.

The Menominee Network was preceded in its region by a different video distance education technology, an Instructional Television Fixed Service (ITFS) system. ITFS provided one-way video transmission, similar to broadcast television but using microwave frequencies, and could be combined with audioconferencing technologies to provide a two way connection. The presence of this previous technology and an associated user group helped the Menominee Network get its start with the more advanced and effective two-way interactive video technology.

1. Interinstitutional Activities in the Network

In this section, I present the activities identified in my research involving relationships among K-12 and higher education institutions. These are presented in order of activity level, from high activity to low activity.

Wisconsin Youth Apprenticeship. This program is one of a number of vocational programs offered in Wisconsin public schools with the guidance of the Wisconsin Department of Public Instruction and in partnership with the Department of Workforce Development, area technical colleges, and area trades or professional organizations.

Participants in the program complete 4 semesters of coursework as juniors and seniors in high school, while simultaneously completing a minimum of 900 hours of paid on-the-job learning in an approved program. Upon completing the program, students are awarded a Certificate of Occupational Proficiency by the state (Wisconsin Department of Public Instruction, 2006).

In 2006-07, Menominee Technical College provided one period, four day per week youth apprenticeship coursework in finance to students in up to 12 high schools. One period per week of apprenticeship coursework in tourism was also offered (“Menominee Network”, 2006).

This program had been in place for a number of years, having been offered through the ITFS system before the start of the Menominee Network, and was considered effective by both technical college and K-12 representatives. However, in 2007-08 it was moved off the Menominee Network and into an online course format. The vice president for learning at Menominee Technical College described this decision as driven by communication technology change, specifically problems with network functionality in BadgerNet 2: “Some of the biggest limitations we’ve had, and this really did happen after the installation of BadgerNet 2, we lost the ability to effectively use the scanned network, so we’re only doing courses that are in four sites. We used to do twelve sites. And on the old BadgerNet and the old equipment, it worked just fine. The teacher could move to any site at any time, the student could come on with no problem, it just, it never worked after BadgerNet 2. We spent about a year working on it. And that’s when the youth apprenticeship decided to go online. Because the instructors were just going nuts. And it was at 7:15 in the morning, you know, it’s hard to get technical support.” Having

established a delivery mode and methodology first with ITFS and then with the first BadgerNet technology, the program’s managers chose to convert to an entirely different instructional technology rather than continue with the new BadgerNet system’s limitations.

Wisconsin Youth Options Program. Youth Options programming was shared between the higher education and K-12 schools in the Menominee Network, but to a much more limited extent than that found in the Ojibwa Network. In 2006-07, there was no Youth Options programming through the network. During 2007-08 and 2008-09, a total of nine Youth Options course sessions were scheduled by Menominee Network K-12 schools (“Menominee Network”, 2006, 2007a, 2008). These were drawn from two courses offered by Menominee Technical College – one each year – and two courses offered by technical colleges in other parts of Wisconsin and brought into the network. In comparison, the Ojibwa Network schools scheduled 55 Youth Options course sessions during the three year period.

Table 5.1 Youth Options Course Reception by K-12 schools, per academic year

(“Menominee Network”, 2006, 2007a, 2008)

2006-07=22 schools, 2007-08 and 2008-09=23 schools

Year	None	1	2
2006-07	22	0	0
2007-08	19	3	1
2008-09	18	5	0

A more active Youth Options program had been provided by UW-Menominee during its period of membership. However, the UW-Menominee continuing education director described the program as not meeting the university's expectations and in decline at the time the university left the network. By 2008-09, Menominee Technical College had begun offering college transfer courses through the Menominee Network to take the place of those no longer offered by the UW. The technical college's strategy was described by its vice president for learning: "UW-Menominee used to be a member of the consortium. They however are not eligible for TEACH funds. So when BadgerNet 2 came out, which is the backbone of our current system, it was just too expensive for UW to be involved. But what we started doing, we just started it this year and are expanding it next year, we are putting out a lot of the general education courses that are transferable to the university system through the Menominee Network. So high school students can take these courses and get a jump start, either coming to the technical college or coming to the university. That's been one of our biggest benefits recently, or one of our biggest moves." The vice president stated that these courses were not being promoted specifically as Youth Options – that is, as courses with dual high school and college credit – but were being used this way by students in the network member high schools.

Staff development and adult programming. During the study period, Menominee Technical College offered its Certified Nursing Assistant (I) program coursework each year as an evening program at three geographically dispersed high school locations on the network. Courses in sign language and medical terminology were also offered in the evening ("Menominee Network", 2006, 2007a, 2008). These courses

were available to upper division high school students as well as members of the community at large. The initiative for some of these community courses began with K-12 staff or administration and was brought to the technical college: “We’ll get a letter from a superintendent saying, our studio isn’t being used enough, can you broadcast from here, and then we look for an instructor that might be able to teach something from that area. So the high school itself may not be looking for a course for its students, it wants to serve the community. So collaboration with them doesn’t necessarily mean with their students, but when they look good to their community, if they have to go out and pass a referendum, their community recognized things that they’re doing, if we’re broadcasting from their high school, they think that’s cool.” The network director noted the impact these programs had in local communities: “And so for Menominee Tech, they’ve worked with many of the area schools to open up their doors in the evening to provide adult education, for instance, which generally doesn’t happen in a normal K-12 school. Usually it’s school’s out, you have sports in the evening, and that’ll be about it,” These network offerings paralleled community education courses offered through traditional delivery at schools across the region. Using the network leveraged the course to make it available in multiple locations from a single instructor.

During the period of the study, Menominee Technical College offered an applied reading course designed for teacher professional development in 2007-08 that was received at three schools (“Menominee Network”, 2007a). UW-Menominee offered periodic coursework in a master’s in education program that was received at one of the high schools in the network. This coursework was part of a program that the university offered at locations around the state using its Internet video system. Overall, the

professional development offerings in the Menominee Network were significantly less than those offered in the Ojibwa Network.

Preservice teacher development and research. The UW-Menominee continuing education director described activities carried through the network and its external BadgerNet connection, during its period of membership, as part of student development activities in teacher education courses. An education professor would arrange an interconnection between the university and a classroom at a school in a major urban area of the state. Students would observe classes at the urban school. This use of the network allowed the school of education to provide a more broad and diverse experience for its preservice teachers.

Research was another component of the school of education's activities. Through the relationship with the urban school, the faculty and students were able to conduct research in a setting different from that available in the rural area around the university. The continuing education director stated that research activities changed over time so that the involved professor was working more with teachers than with students through the network.

2. Factors Contributing to Development of Initiatives

The network as a web of relationships. The Menominee Network operates with a governing board consisting of a representative from each member organization. The board grew from 20 members in 2005 to 25 members in 2008. Board meetings are held every two months. Members of the board were superintendents of the K-12 schools, the CESA administrator, the vice president for learning of Menominee Technical College,

and, during their period of membership, the continuing education director of UW-Menominee (“Menominee Network”, 2005).

Minutes of the twelve board meetings in 2005, 2006, and 2007 were examined to identify the nature of governance activity for K-12 and higher education members. The participation of member organizations in the board ranged from a high of 74% of K-12 members at two meetings during this period, to a low of 35% at one meeting where a quorum was not present. The median attendance was 57% of K-12 members. One district did not attend any meetings during the three year period. The Menominee Technical College representative attended eight of the twelve meetings, while UW-Menominee was represented at one of four meetings during its membership, and a representative attended a later meeting to explain their termination of membership. CESA was represented at all meetings.

The activities of the governing board were focused on resource management, K-12 programming and technology. During 2005, 2006, and 2007, the board acted on 54 items of business. Of these, 19 were of an administrative nature, such as budget approvals; 13 concerned K-12 programming, considered primarily in the form of reports from the Programming Committee; and 12 were related to technology, primarily the implementation of the BadgerNet 2 system. There were eight items concerning membership topics: the departure of UW-Menominee from the network, and the creation of an associate member category to facilitate its return, as well as the addition of four new K-12 members during the period. One item involved instructor development. One item concerned higher education programming from Menominee Technical College.

The minutes identify the Programming Committee as the venue where the

network's course schedule is created each year. Minutes from the Programming Committee meetings were not available for analysis. The only direct comment on the Programming Committee process came from one of the two K-12 guidance counselors interviewed. The counselor described a lack of communication between the higher education and K-12 members in the Programming Committee: "Last year, Menominee Tech didn't even send, our meeting was right across the street, they didn't even send a representative to kind of meet with the rest of us, talk what they're offering. So we don't have a lot of communication that way between those schools. UW-Menominee, when they were more involved, they made it difficult. Students had to apply through UW. Which I can understand that. They don't want kids just kind of goofing around, I don't think. They want them serious about it. They made it difficult for kids to get into their class."

The Menominee Network's main office, like that of the Ojibwa Network, served as the hub of communication for network activities. One school representative did note a new active involvement of the network office in brokering access to higher education resources by creating an associate network membership category.

However, the kinds of comments about active communication by staff made in the Ojibwa Network interviews were not present in the interviews with Menominee Network members.

Technical college programs and initiatives. In contrast to the specific comment about engagement in the Programming Committee, most interviewees described Menominee Technical College as becoming proactive in providing coursework and making use of the Menominee Network. The vice president for learning depicted the

college's involvement in the network as part of an overall portfolio of services provided collaboratively by the college to high schools in its district. These services included an annual business education summit, articulation meetings with teachers in specific disciplines, an annual school counselor conference to communicate changes in the tech college program requirements while gathering information about student and school interests, and a number of staff development programs. These relationships were communicated to the schools and other constituents in annual school collaboration report presented as a color brochure.

The proactive approach of Menominee Technical College extended to its efforts to "fill the gap" of college transfer programming when UW-Menominee withdrew. This was noted by the network director: "I would say with Menominee Tech, collaboration has improved every year, I think. And I think it's because they know that educational opportunities are, you know, it's a great tool to have, and schools also are dealing with low enrollments and cuts, and Menominee Tech I think feels that they can help provide more courses, during the day perhaps, you know, if there's a class that they would traditionally maybe offer during the evening hours but students can't take an evening class, I'm seeing an effort this year to try to add more of the day to day courses that they have on campus to the network. That's actually going to be starting next year, which is good to see. But I think every year they've been building, trying." Since the technical college viewed its use of the Menominee Network as a component in an overall program, use of the network technology was not a goal, but a means to accomplish existing institutional goals.

3. Factors Preventing or Limiting Development of Initiatives

Higher education institutional issues. All interviewees in the Menominee Network, when asked about higher education-K12 collaboration, first discussed the departure of UW-Menominee from network membership in 2005. I will explore this significant factor in terms of these elements:

- UW-Menominee's program and interests in the Menominee Network
- UW-Menominee's reasons for departure as described by its continuing education director and communicated to the network governing board
- Other motives attributed to the university by network participants
- UW-Menominee's return to the network as an associate member, and its program at the end of the study period.

UW-Menominee's program and interests. The continuing education director described the university's interests as changing over the period of its involvement with the network: "I think the first time it started was back in the mid-90s, where we were doing some regional things with other UW institutions, mainly dealing with sharing classes in the engineering field, more so than anything else. And then it went into sharing courses with some of the technical colleges, we still do that a lot, where we're teaching classes for continuing education professional development for educators at the technical colleges, so that kind of evolved into that. We then started working more with the high school students, really in the late 90s it was when that became more prevalent where we were offering college level courses for the high school students to be able to take, and then our biggest component of that has really been focused on the, and now really focuses on the continuing professional development with the technical colleges, and then we offer

a master of science in education through that particular network. So it's really kind of varied over the years as to the different ways that we've used it, but it really started as more of a sharing of classes amongst two or three institutions, and now it's much more for delivery of our—of a degree program for us, although we still do some sharing as it relates to some team taught courses in education as well.” The university initially saw the network primarily as a gateway to other UW campus and to technical college campuses for delivery of collaborative programs. A period of more active use for Youth Options programming came later, then waned, while the collaborative coursework with other Uws also ended, due in part to the end of grant funding. At the time of the interview, the university was using interactive television for delivery of a graduate education master's degree, while focusing much of its outreach instruction resources on Web-based courses.

UW-Menominee's reasons for departure. The continuing education director stated that cost issues, coupled with lack of enrollment in Youth Options courses and a changing level of university administrative commitment to the Menominee Network, led to the termination of its membership at the end of 2005. The cost issues were the same as those described in the Ojibwa Network study and applying to UW-Ojibwa – UW institutions had to pay the full cost of \$2,250 per month for communication services, while K-12 and technical college members received a state subsidized rate of \$250 per month for the same service. The implementation of BadgerNet 2 provided a decision point for all members regarding the cost versus benefits of the service.

The continuing education director also described lack of commitments to Youth Options courses by the schools as increasingly problematic: “Between the schools they

understood the importance of, if you make a commitment that you're gonna have x number of students from your school taking a class with another institution, they understood that commitment and if somebody backed out the school district picked up the cost for that, and said, we understand that you've planned for this. They wouldn't do the same thing for the university and for the technical college. And so we basically put ourselves out there by hiring somebody, making the class available, putting all your costs associated with it out there, and then if the student didn't show up...there was nothing that anybody did about that. And so if it was one student, not a big deal, but one semester we had nine students that signed up, and everybody dropped before the class started and so, or eight of the nine dropped, so, you know, we had gone ahead, hired somebody, put in all the up front work to get it ready, had made a commitment to pay this individual, and then people dropped out.” In this experience, the university found enrollments and associated tuition revenue did not justify costs for delivery of the course, and ultimately concluded that the pattern of enrollment would not justify continuation of the Youth Options program through the network.

A changing environment and commitment level by the university's administration was also described as a component in the departure. The continuing education director felt that the lack of an advocate for the Menominee Network programs among the faculty made it difficult for them to succeed. It was hard to persuade faculty to teach courses through the network because there were competing demands for faculty time to each on-campus courses. The administrators in place at the time of the decision were ambivalent: “When I came into the position the response I got I said well, you know, what is the plan for UW-Menominee to move forward with this, what do we want, ‘Oh, just kind of keep

things the way they are'. It was, you know, really no, there hadn't been a lot of thought put into it, there wasn't a champion for it, there really hadn't been a plan outlined, or if there had been, it left with the people who had made the decisions to start working with the network." The program had also been placed on a cost recovery basis, requiring more revenues in order to meet the expenses of instruction and delivery over the network. Management saw cost recovery as difficult, if not impossible, for this program.

The university's departure from the network was officially communicated in a letter from its administrator for technology. As reported in the governing board minutes, the letter indicated that the university could not justify the cost of participation ("Menominee Network", 2005).

Other attributed reasons for departure. Two of the interviewees felt that the university had been influenced by officials at the University of Wisconsin System Administration to discontinue its membership. News reports in 2004 described the university system's concern that the state government's approach to development of BadgerNet 2 would not meet the university's broad needs for digital communication. The university system pursued separate plans for creating its own statewide network until the governor intervened to direct university participation in BadgerNet 2 (Stitt, 2004). Two other interviewees stated that the university had not given a clear explanation of its departure from the network. These network participants were uncomfortable with the motives behind the university's departure. Their statements indicate the kinds of failure of trust described by Van de Ven and Ring (1991) in the dissolution of interorganizational relationships.

UW-Menominee's return as associate member. Fifteen months after ending its

membership in the Menominee Network, UW-Menominee asked to re-establish a relationship with the network in order to obtain scheduling services. Scheduling of courses in the statewide BadgerNet interconnection is handled through regional network offices and is not directly available through the central BadgerNet statewide scheduling office (“Menominee Network”, 2007b). A non-member scheduling fee and an associate member category were discussed by the board as two possible ways to respond to the request. In considering appropriate fees, a board member pointed out the costs all other members had to absorb when the university left the network (“Menominee Network”, 2007b). The board created a committee to consider the request. At the succeeding board meeting, an associate member category with fees of 40% of regular membership was approved for the university (“Menominee Network”, 2007c).

The coursework provided by the university through its new membership was the master’s level education program as described previously, delivered to one school location in the Menominee Network as well as to other locations across the state (“Menominee Network”, 2008). The university was not engaged in the network as it was during the period it offered Youth Options courses. As the “Watasa” guidance counselor saw it after the associate membership: “Early in the process we were getting courses from UW-Menominee. So we would have a handful of kids taking for example, a general psychology, getting college credit for it, and the kids wouldn’t have to leave the building to do so. And I think that ran for four or five years. Then for some reason, UW-Menominee kind of pulled out from providing classes for high school students, which I was really disappointed in, cause personally I saw this as being the major advantage for having the network. Never did get a good explanation for why UW pulled out, and they

haven't shown any interest in getting back in.”

Scheduling issues. The K-12 members of the network described two different kinds of course scheduling issues – competition for course access, and bell schedule matching.

The competition issue concerned the network's practice of limiting the use of the technology to connect no more than four different classrooms. With popular courses, more than three external schools commonly requested access to the course. Resolution of this demand issue favored those schools with higher enrollments, in the view of the superintendent of a smaller district: “We have been excluded from some courses that we did have students interested in, at what I believe to be at the expense of some of the larger schools that have had more students signing up for some of the courses. That then has become somewhat of a financial consideration. Because the host school is going to receive compensation for teaching that class based on the number of students that are taking it. So if we here at Waukau only have two students that want to take a particular class, and there's another school that has eight schools that want to take that class, we've been bumped out of the system in favor of those schools that have had higher enrollment. I guess in that respect, it's somewhat been frustrating and somewhat limiting in the sense that we haven't been able to get into everything that we wanted to, and everything we thought we may have had an opportunity to at a given time.” The superintendent felt this practice, while not explicit in the network's operating policies, made it difficult for the smaller schools to be full and equal participants in the network's course offerings.

The bell schedule matching issue was very similar to that identified in the Ojibwa Network. The UW-Menominee continuing education director described the scheduling

issue as one of the several factors that reduced the university's interest in the network: "One of the things that we're dealing with when we offered the classes for the high school students was they were offered at the same time as the on campus section was. And so our times are 52 minute. With 52 minute time periods. And so what we had to do was try to find the one time during the day that fit the most other schedules of the K-12 system. So that, I think that was somewhat problematic because it was a prime time, so there were lots of other courses offered at that time, but just the whole fact that not, it wasn't even two or three districts within our, two or three school districts within our area that even had the same blocks of time. So students were constantly feeling like they were having to juggle, cause they were missing another portions of another class either before or after the class that they were taking with us, and that tended to cause some problems especially in some of the smaller, smaller schools where they were on a very set schedule as far as what they did. So I think that's probably one of the biggest things, was the scheduling." The guidance counselor of the "Watasa" school district stated that there had been discussions about a common schedule, but achieving it would be daunting: "Well, in our 32 school CESA, it, the start of school day ranges anywhere from 7:45 to 8:30. Of course you're talking about individual school district's bus schedules, to coincide with that bell schedule. I think that's gonna be just a monumental task to pull that off."

Cost versus benefits. As in the Ojibwa Network, the cost of Youth Options course tuition was a concern for some participants. The "Neconish" school district guidance counselor stated that the district did not promote or advertise Youth Options courses very well, because it preferred not to pay for the courses. Eighteen of the twenty-

three K-12 districts, comprising 78% of the membership, used no Youth Options courses during the study period.

4. Meeting the Purposes of Member Organizations?

Responses of K-12 Members. Two of the three K-12 representatives interviewed in the Menominee Network stated they did not believe their district had achieved the expected results from participation in the network. One indicated that the network was not serving as many students at the school as expected, given the cost. The other had expected a wider variety of courses and other educational options from the network. The third representative expressed satisfaction with the network as a means of sharing courses between school districts. This representative also expressed puzzlement as to why the higher education institutions were not offering staff development courses through the network.

Responses of higher education members. UW-Menominee decided the network did not meet its needs, and discontinued its membership. Its return as an associate member was essentially to gain access to the statewide BadgerNet. The university concluded it could provide its services to the Menominee Network region through its other instructional delivery mechanisms – online learning and campus-based courses.

Menominee Technical College took a different approach to its use of the Menominee Network. The technical college tended to view the network as a means to provide greater service to upper division high school students and to the communities in its district. Its existing youth apprenticeship program expanded to make use of the network, continuing to do so until technical difficulties forced a decision to change

delivery systems. The college responded to requests by K-12 superintendents for community programming by providing a course through the network. When UW-Menominee left the network, the technical college began to add Youth Options college transfer courses previously offered by the university.

5. Are Initiatives Sustained?

In this network the major collaborative initiatives involving K-12 schools and higher education have not been sustained. Menominee Technical College did not discontinue its Youth Apprenticeship program, but moved it off the network and onto the Internet when short-term technical difficulties arose from network technology change. UW-Menominee discontinued its major program activities with K-12 schools due to low enrollments and costs. Menominee Technical College is adding Youth Options coursework, but it remains to be seen whether it will encounter the same enrollment issues experienced by UW-Menominee. Those issues appear to be due to the combination of limited student interest and perhaps a lower level of support by school counselors and administrators than that seen in the Ojibwa Network.

The lower participation of higher education partners in the governing board and programming committee indicates relatively loose coupling between these and the K-12 members. The relatively few number of comments among interviewees about the organization's communication and effectiveness of planning is in contrast with the comments made by members of the Ojibwa Network about their organization. The Menominee Network has a relatively low utilization of courses in its schools in comparison with the Ojibwa Network. It essentially does not have four year university

participation. Menominee Technical College provides a modest, though growing program. What, then, caused network K-12 membership to increase during the study period, with three new K-12 districts joining between 2005 and 2008? While the one-time cost of classroom equipment may be as high as \$50,000, the total annual cost of communication services and membership fees for the Menominee Network for K-12 schools is about \$8,000 per year (“Menominee Network”, 2007b). State subsidies, as described in the Ojibwa Network case, offset some of these costs. The new member schools appear to be finding these costs justifiable for the access to instruction from the other member schools and Menominee Technical College.

6. Summary of the Case

After more than ten years of operation of the Menominee Network, higher education-school collaboration in the network has waxed and waned with the interest of UW-Menominee. The university has viewed the network as much as a statewide gateway and interconnect with other UWs as it has a regional link to K-12 schools and technical college. When technology changed, costs increased, and expected Youth Options enrollments failed to materialize, the university withdrew from full membership. Its withdrawal clearly left negative feelings among many of the K-12 members. The university returned after more than a year’s absence as an associate member to gain access to the statewide network, but with no further interest in developing course or program offerings within the network.

In contrast, Menominee Technical College provided a modest program of courses for K-12 sites as extensions of its ongoing services to schools. It moved its Youth

Apprenticeship programs to Internet delivery, but continued its membership in the network and began to increase its Youth Options courses as UW-Menominee withdrew. The college viewed the network as an integral part of an overall program. No doubt the technical college's eligibility for state subsidy for its communication services made a real difference in its ability to afford to deliver programs through the Menominee Network when UW-Menominee, not eligible for the subsidy, withdrew.

Thus, the network's effectiveness as a venue where higher education and K-12 partners can develop collaboration has been limited to those ongoing relationships between the schools and technical college.

CHAPTER SIX

Case Study of the Sauk Network

The Sauk Network has been in operation for more than ten years, serving a geographic area which encompasses urban, suburban, and rural communities. The network has a very diverse membership of organizations, numbering fourteen at the end of the study period. There are seven public school district members. Three of these are K-12 districts; the remaining four are 9-12 union high school districts, with several K-8 school districts sending their graduates to the high school, hence its “union” designation. Two private high schools and one special needs high school also are members. The higher education members are a technical college (“Sauk Technical College”) with four campuses in the region, a private college (“Michiwa College”) and a private university (“Makatai University”). A public museum is also a nonvoting member of the network, similar to the associate membership category used in the Ojibwa and Menominee networks (Wisconsin Association of Distance Education Networks, 2009). During the three year study period, a K-12 school district left the network at the beginning of the first year, and a children’s health education center left later in the year (“Sauk Network”, 2006b, 2006c).

The largest community within the geographic area served by the network is a suburban city with a population of about 35,000, part of one of the larger urban areas of Wisconsin. Two private high schools in the urban area also are Sauk members, but the network does not consider their city a regular part of its service area since most of the other schools there belong to a different network. On the other end of the spectrum are

two schools in communities of less than 3,000 residents. The most distant members of the network are separated by about 50 miles.

In a typical term during this study, Sauk Network K-12 schools averaged 4.8 periods of courses in a potential 8 period day. The primary activity in the Sauk Network is sharing of high school courses among school districts. Subject areas regularly offered include languages — French, Japanese and American Sign Language — history, psychology, and medical terminology. Some distinctive courses in this network are Spanish for Spanish speakers, and Street Law.

The Sauk Network has two full-time staff—a network director and a staff member for program support. The network director had been in that position for about nine years at the time of interview, starting just a few months after the network began operation. The director had been involved with planning and development of regional distance education networks in two previous positions. The network office is located on a campus of Sauk Technical College, which serves as the fiscal and management agent for the network.

1. Interinstitutional Activities in the Network

In this section, I present the activities identified in my research involving relationships among K-12 and higher education institutions. These are presented in order of activity level, from high activity to low activity.

Youth Options — American Sign Language and Medical Terminology courses.

The Sauk Network has a high level of participation in courses in American Sign Language, offered for Youth Options credit by Sauk Technical College. Over the period

of the study, every high school in the network received ASL coursework, with the majority of schools receiving coursework every term, sometimes for two periods per day. At least two sections of ASL, introductory and advanced, were offered through the network daily, with up to two additional sections in some semesters (“Sauk Network”, 2006a, 2007a, 2008a).

The network director and a guidance counselor both attributed the level of interest in ASL coursework to the presence of the “Neswi” school, a special school for hearing impaired students, as a member of the network. Trained staff from Neswi were available when the network started, and for a number of years thereafter, to provide ASL coursework for which credit could be earned from the Technical College. ASL coursework is generally accepted as meeting a language requirement at the high school level, and draws strong interest among students in the Sauk Network schools, particularly those considering health-related careers. Instruction for these courses has since passed to staff teaching at, or recruited by, the technical college and a different school district, but continues to be offered for the dual high school/college credit of the Youth Options Program.

Medical Terminology courses offered by Sauk Technical College show a similar high level of usage among the high schools, with all nine high schools participating in at least one term during the three year period. Two different sections of Medical Terminology are typically scheduled during the network day (“Sauk Network,” 2008a).

Other Youth Options Offerings. Sauk Technical College offered Introduction to Psychology, Developmental Psychology, and Introduction to Sociology to K-12 schools in the network regularly during the study period. These courses were less widely used

than the ASL and Medical Technology courses, with two or three schools typically participating, plus one or two schools from other networks during some terms.

Table 6.1 exhibits the pattern of use of Youth Options courses in the Sauk Network during the study period. Among the three networks studied, Sauk has the broadest and most consistent use of Youth Options, primarily due to the widespread interest in and acceptance of American Sign Language and Medical Terminology courses. In the 2008-09 year, there has been a slight decline in overall usage among four schools from the previous two years, while one school increased its use by one course.

Table 6.1 Sauk Network Youth Options Course Reception by K-12 schools, per academic year

(“Sauk Network”, 2006a, 2007a, 2008a)

Membership = 10 schools throughout study period

Year	None	1	2	3	4	5	6
2006-07	0	2	1	3	2	2	0
2007-08	1	2	2	1	1	3	0
2008-09	1	1	3	4	0	0	1

Virtual Field Trips. A distinct characteristic of the Sauk Network has been a focus on developing and promoting virtual field trip experiences for its students. While all of the networks in this study made use of virtual field trips, and occasionally were involved in creating them, the Sauk Network director made the development of this form

of instructional programming a priority. The director viewed the network as a program development organization that could extend learning opportunities from organizations with an educational mission component to students within the Sauk Network schools, Wisconsin, and beyond. The director was able to collaborate with a broad variety of organizations located geographically within or near the network, among them two public museums, an international organization for aircraft owners, the operators of a replica ship, a zoo, and a children's health center. The director was also active in developing the live heart surgery videocasts used by schools in the Ojibwa and Menominee networks, cited earlier in this study. In each instance, the director was able to work with these organizations to plan and produce programs, sometimes single events but more often recurring, that extended the organizations' educational reach to students in the Sauk Network schools, and typically beyond them to other schools in Wisconsin through the interconnecting BadgerNet and other regional networks. The director was also able to coordinate the necessary technical resources and funding to make these events possible. However, the director stated that the number of these programs had been reduced by 2008, due to cutbacks or personnel turnover at several of the partner organizations.

Virtual field trips are included here as collaborative higher education-K12 activities because of the involvement of the two private higher education institutions, Makatai University and Michiwa College, as well as Sauk Technical College, in presenting these events. Both Makatai and Michiwa sometimes invite students from nearby public or private schools not part of the Sauk Network to the campus to participate in selected virtual field trips. Both institutions also made some virtual field trips available to their own students, either as a learning activity for their students in the

applicable content areas, or as examples of application of educational technology for their education students to observe. The media services director at Michiwa College noted these latter efforts had been the initiative of one faculty member: “We’ve had variations on the electronic field-trip theme. We had a member of our education department for seven or eight years, however, she hasn’t done it for three or four years, build into the curriculum of some of her methods courses requiring her students to organize in teams two-way video conferences, the electronic field-trip concept that we would host, elementary schools or junior highs from the greater Michiwa area and bring classes in and work with the technology with them and do those kinds of things. But it has been a very much a one-on-one scenario.” Students in Sauk Technical College health science programs participate in the heart surgery videocasts.

School staff development. Michiwa College offers three courses each term of professional development courses for classroom teachers. The college has offered this program for more than ten years. The courses are marketed statewide, but the program manager in Michiwa’s adult education office indicated the enrollments are primarily at locations within the Sauk Network geographic area. Some of these enrollments are at a correctional school with video network capabilities that is not officially part of Sauk due to state corrections policies.

Other adult learning programs. Makatai University became a member of the Sauk Network because of the desire by its college of business and management to make a graduate business degree available to adults at locations across Wisconsin. Makatai had previously had a connection to a different network, but left that network primarily to work with Sauk’s network director. The program was planned for delivery at multiple

locations around the state, one of which was a high school in the Sauk Network where Makatai projected there would be a market for the degree. This program ended when Makatai converted the degree to an online delivery format. At the end of the study period, Makatai's involvement with network programming was limited, as described by the university's library and technology director, the liaison between the institution and the network: "Our current use is mostly all in single event type activities — anything having to do with workshop activities, or collaborative meetings, or we just recently did a doctoral dissertation defense. But they're not credit classes. We're not really doing any credit classes at the moment."

The Sauk Network also periodically provided access to coursework from UW-Menominee for teacher professional development. More recently, another nearby UW campus, UW-Amowa, had approached the network about providing this type of coursework. UW-Amowa was not seeking to become a network member, but would serve essentially as an external provider of programming of interest to the network members, likely connecting its on-campus video classroom to the network through one of the state's gateways for external video connection.

With its focused and broadly utilized Youth Options courses, active development program of virtual field trips, and consistent school staff development offerings from Michiwa College, the Sauk Network has a well-developed set of collaborative instructional activities shared among its school and higher education members.

2. Factors Contributing to Development of Initiatives

Network director's knowledge and initiative. A majority of the institutional

representatives interviewed in the Sauk Network described the efforts of the network director as an important factor in creating and maintaining the network's current program of activities. The library and instructional technology director at Makatai University considered the network director's services the main benefit of network membership: "In our case, the greatest single benefit was the expertise of the network director, who was able to not only solve immediate tech support type, issues, to make sure that individual sessions worked property, but was very skilled at all elements of the design of sessions, including knowing people and where to get facilities around the state, you know, where our students could be physically located to bring them into these sessions and all the kinds of work that went with that. So that's, since our beginning point that's been the single biggest benefit to us here at Makatai where we didn't have a lot of in house, you know, we didn't have somebody, for instance running our distance learning facility here. So it was very helpful to have somebody we could call on." The director is noted around the state for sharing information on new technologies through e-mail lists, and helping connect people with organizations. Another institutional representative commented, "Certainly the somewhat unanticipated benefit but the ongoing benefit has been being able to harvest the expertise in the context of the director's office of the consortium. And if you don't know him yet and you get to know (him), you're going to discover that he sort of is in contact with everybody on the planet I think that's involved." Another described the director as "aggressive", saying "I can tell you that when we first started, before we had our current director, I thought the room that we built we would not be using for distance learning, because it sat empty and nothing seemed to be happening. And we got a different director and things started taking off." The director's leadership

skills and knowledge gave institutional representatives the sense that the organization was a place where things would happen, things that would benefit their respective institutions. His active involvement in the development of the virtual field trips also enhanced his reputation with members. He demonstrated that he could connect their students with new and exciting places to stimulate learning. In doing so, he provided evidence of the key role identified by Johnson (1996) for network directors in shaping an effective distance learning organization.

The network as a web of relationships. As in the other networks in this study, the founders of the Sauk Network were interested in entering into a collaborative relationship with other education organizations around the technology of ITV, expecting that this collaboration would bring mutual benefits. The Sauk Network was able to provide minutes of its quarterly Executive Board meetings and its annual Joint Meeting of executive and programming representatives for analysis. The network operates with a governing board consisting of a representative from each member organization. Members during the study period included school superintendents or their designees from the high school members, the director of library and instructional technology at Makatai University, and the media services director at Michiwa College.

Minutes for the twelve board meetings held in 2006, 2007 and 2008 were analyzed to identify the nature of governance activity for school and higher education members.

Member attendance throughout the study period was fairly consistent with a high of 93% attending one meeting in 2006, a low of 29% at one meeting in 2007, and a median of 62%.

The representatives from Michiwa College and Makatai University attended nine and eleven, respectively, of the twelve meetings. The Makatai representative was chair of the governing board from 2005 to 2007. The special needs high school representative attended only one meeting during the three years, demonstrating the school's different use of the network, focused more on videoconferencing with special needs students around the state than on sending or receiving courses. The official representative of Sauk Technical College attended four of the twelve meetings.

Among the business items considered by the board during the study period, 27 were of an administrative nature, 15 concerned programming, nine were about technology, seven about membership, and three addressed higher education-school topics. The fact that technology was a lower recurring topic than programming in Sauk Network governance probably reflects the emphasis of the network director on programming issues, as well as the maturing nature of the BadgerNet Converged Network as 2008 arrived. The higher education topics included a presentation by the president of Sauk Technical College on the importance of distance education as a pathway for high school students to higher education, and two items concerning the course offerings by the technical college.

With relatively high engagement of the private higher education partners, and the program of course offerings by Sauk Technical College, the network's governance and operating channels were clearly in place to provide an environment in which collaborative relationships were possible.

Access to the statewide network. In the Sauk Network, more so than the Ojibwa or Menominee Networks, the regional network's role as an access point to the statewide

BadgerNet was an important factor in attracting member organizations. Makatai University joined so that it could provide a statewide cohort for its graduate business degree. Michiwa College wished to attract teachers to its professional development programs. For several years, the college also used the Sauk Network and BadgerNet connections to join with an out-of-state private college in a joint master's in social work program, and it had interests in interconnecting with other members of the Wisconsin Association of Independent Colleges and Universities (WAICU). The network director pointed out that the state's policies on access to BadgerNet required colleges, schools, and other organizations such as libraries and museums to join a regional network in order to gain access to the state-funded scheduling service. The director was involved in advocacy for setting this policy, and gave this view of it: "In WADEN very quickly we kind of came to this thing that we have to force people to be part of the network, because if you're not talking to anybody you're not going to use this. But you really didn't have to belong to part of a network. You didn't have to tell anybody how you were going to use it. All you had to do was claim the subsidy from the state. And there was this huge population explosion of BadgerNet rooms all over the place, and a lot of them just sat dark. Nobody used them. They put paper over the windows, because they say we didn't want anybody to see the good stuff that was in there, so they don't steal it....Well, TEACH kind of caught on pretty quickly, and we went back to (the director of the state's TEACH funding program) back in the day when that was, and we said, look, you have to be part of a network, you can't be out on your own. First of all, it makes scheduling a nightmare. But second of all, you don't have any impetus for using the equipment. You don't know what can be done and who can do it. So part of the thing, if you're going to

receive a subsidy, we want you to ensure that you're also going to be part of the network.” By the time the Sauk network was forming, in its semi-urban region, there were already alternatives emerging for two-way interactive video in education: an alternative video service known as AAVS offered at that time by the telecommunications company Ameritech (now part of AT&T), or the digital video dial-up service called ISDN. Institutional leaders, academic decision makers, and educational technologists were striving to make sense of which technology would provide the best performance, the best price, and be most likely to succeed as a long term investment for their organizations. By creating this policy, the TEACH program codified a powerful incentive for educational organizations to follow the state's original vision of regional collaboration in networks. All of those organizations eligible for TEACH communication funding—essentially, all educational organizations except the UW campuses—needed to join a network to receive the funding. Thus the higher education organizations, and even larger school districts, were dissuaded from operating independently in their video distance education activities, and persuaded to join the regional network.

School desire for access to higher education programs. Two of the three school district representatives interviewed in the Sauk Network identified access to higher education opportunities for their advanced students—primarily, the Youth Options program—as an incentive for their network participation. The “Anikwa” high school guidance counselor described their interests in terms that reflect the primary purposes of distance education programs as described in the literature—providing access without travel, and aggregating student numbers to expand opportunities: “I think the benefits

were kind of two. One would be to give our students access to courses that they would never have gotten here otherwise. An example of a class we've had from the start has been American Sign Language. The Neswi School, which is about 15 miles from here, and so this community and this area is real familiar with that school, but a school like Anikwa or most high schools wouldn't hire somebody to teach American Sign Language. So that's a benefit, to get some courses in here that we never would have had an option to have before. And then the other is sometimes, given the size of our school, we don't get enough kids signing up, for example, an AP Calculus class. As a result, the classes wouldn't run if there are only two or three kids that sign up for it. Well, we can find an AP Calculus class online and then those two or three kids could take it in the distance education lab. So that's kind of the two ways, I think, that it's used." The district administrator of the "Asawi" school district also first mentioned access to college classes when asked about the district's interests when joining the Sauk Network.

The Sauk Network director gave a lengthy description of the benefits of higher education access for high school students, pointing out the time savings for students as well as the costs saved by parents and, ultimately, taxpayers, when students were able to begin their college careers earning credits in their junior or senior years. "And for the parents, if we can graduate those kids with six, nine, 12 credits that transfer to the other schools, and again we're talking about pretty good kids, we can save them half a semester to a semester, that's a significant investment at some of the colleges. You know, it's sort of like a scholarship, if you will, that you get to claim a little bit early. You know, the kids get those credits, so those are credits that the families don't have to pay for on their own, later. And so it works out real well for the families. Plus it gets those kids through

the educational system maybe six months faster, maybe not, but maybe a couple months faster, so they can actually graduate in four years instead of five years, which means we get them into the workforce faster, with a college education, which works out real well for, you know, the community and everything as a whole. So I think the benefits of higher ed partners working with the K-12s is a good one.” The director went on to link this advantage back to taxpayer satisfaction with the services of their public schools, colleges, and universities.

The partner in higher education access for high school students in the Sauk Network has been Sauk Technical College. Identifying the locus of initiative for the college in its use of the network during the study proved challenging, as the network director, based at a campus of the college, appeared to have the primary responsibility for planning and developing the college’s offerings. Academic administration at the college had limited engagement in development or implementation of the college’s strategy (“Sauk Network” director, personal communication, January 23, 2009; “Sauk Technical College” workforce development program director, personal communication, February 6, 2009). When there was some uncertainty about course offerings from the college for 2008-09, the governing board asked the director to communicate with the college president regarding its plans (“Sauk Network”, 2008b).

The two private higher education members in the network did not provide courses aimed at these students, instead focusing on their respective interests of teacher professional development for Michiwa College, and adult graduate coursework for Makatai University.

The motives for collaboration between schools and higher education members in

the Sauk Network thus were similar to those found in the Ojibwa and Menominee networks, but with important differences. Both types of members found the resources provided by the network an important unique resource contribution from the network to their organizations. Among the schools, access to higher education courses and credits for advanced high school students was a strong interest, and access to school staff professional development was seen as a further benefit of the network. Sauk Technical College was active in providing courses for high school students, as a service to its district and as a potential means of attracting future students. The network director described this goal: “And so you know once you’ve taken college classes at the technical college, you’re forever linked to that school. You’ll always be writing back and getting your transcripts, you know, any time you go to another school, any time you do anything else, you’re always sending your four dollars in and getting your transcript. Which I think also helps when these kids grow up and they start looking on their property tax bills and saying, why am I paying all this money, you know, VTAE, what is this, why am I paying all this. Oh, yeah, I remember going and getting these classes when I was in high school. It was part of my education that I got there.”

Michiwa College and Makatai University had more narrowly defined interests than those found among higher education partners in other networks. Michiwa focused on teacher professional development, while Makatai joined the network to deliver a specific graduate degree program. Both had interests in the Sauk Network sites, but also looked to the network as a video gateway to locations more distant in Wisconsin and beyond.

3. Factors Preventing or Limiting Development of Initiatives

Environmental factors. Interviewees in the Sauk Network, when asked about limitations or future changes, primarily mentioned a combination of environmental issues as affecting their current and future use of the network. Some of the issues were connected to technology change, but went beyond this to include personnel turnover, population trends, and changing institutional priorities. The issues were somewhat different for each interviewee; collectively, they added up to a sense of dissatisfaction or lowered expectations among a number of the members of the network.

Personnel change. The interviewees at Michiwa College, Makatai University, and Anikwa School District, as well as the network director, identified changes in personnel, either within their organizations or generally within the network, as affecting their organization's use of and involvement with the network.

At Michiwa, the college became a member of the network due to the initiative of a high level technology administrator. The challenge for the college, once the technology was in place, was in convincing the academic programs of the college to plan for and use this new delivery system. The college's historic purposes did not resonate with this new resource: "We are essentially a small liberal arts institution that prides itself on a small class size and direct contact with professors. And in the context of that, our academic administration has not really been enamored with using two-way video as part of distance education for the day-to-day undergraduate enterprise in the institution." While the college developed and maintained its program of teacher professional development courses, these were seen as having achieved mixed success. The continuing education director who initiated the program passed away, and the technology administrator who

led the initiative retired near the end of the study period. The administrator was no longer engaged in network activities, and had long since delegated the college's place on the network board to a new member of his staff, the media director.

Makatai University saw its primary purpose for network membership end when the business college dean, who had advocated the membership for delivery of a master's program, left the university. The dean's successor converted the program into an online format delivered through the Internet. The university continued its network membership because the state-subsidized costs were low, and some other uses, such as virtual field trips, were emerging. The library and instructional technology director, who had recently served as the president of the governing board of the network, identified lack of engagement of decision-makers as one of the significant difficulties of the network organization. "One of the key limitations...is the gross inability of people's schedules to allow them to collaborate in the ways that we'd all wish, right at the most basic levels of the programming activity. And sending people to programming or it's a combination of time constraints and what people's job descriptions are within their own institutions. But that level of human, basic human collaboration that's required to make the networks flourish is very hard to accomplish."

At Anikwa School, the guidance counselor felt that the departure of the district administrator and technology director involved in the initial network development had changed the school's level of commitment. The new administrator was not as involved with the network and tended to not go to meetings, instead delegating participation to the guidance counselor.

The network director and the Michiwa College media director attributed the lack

of involvement of UW-Ketiwa, the four year University of Wisconsin campus in the network's geographic footprint, to personnel change. UW-Ketiwa was a member of the network organization for several years, but did not build a video classroom or connect it to the Sauk Network. The Michiwa media director stated that UW-Ketiwa was engaged until a key technology administrator left for a new position. The network director described UW-Ketiwa's issues in more general personnel-related terms: "UW-Ketiwa had some internal struggles and decided they really couldn't figure out to commit the human resources to the project, and we lost them a number of years ago. They supported us for maybe, I don't know, four or five years monetarily, but they never did a program, they weren't able to come to meetings, those type of things, until we sort of mutually terminated the relationship."

The "Neniwa" school district administrator felt the network had gone through a significant change of participants since its founding. "I think what happens—and this is only my feeling—is the fact that that all new people have come in. And so either they had a bad experience with distance learning, or they just don't see it. And I think part of that is that, you know, when it initially started, those people were pioneers and felt strongly about it, and since they've left and somebody else would replace them, that feeling of, you know, how strongly we're for distance learning hasn't been carried over. And there's been changes in, you know leadership, or changes in technology. I think that then that feeling for distance learning has become less."

Personnel change within organizations can result in loss of the relational contracts created between those who have worked together creating and shaping a new organization in its early phases (Ring & Van de Ven, 1994). Without these informal

connections, finding and accomplishing mutual goals becomes more difficult. The movement of decision-making involvement from formal to informal levels of authority can be a sign of maturity in the organization, but when participants lack the authority to commit resources or advance new initiatives, organizational momentum can be lost.

Technology costs and state policies. The network director and Michiwa college media director described declining telecommunication service costs as having an impact on members' satisfaction with the Sauk Network. At the time the network was established, the state-subsidized cost of digital video service was substantially lower than that available on the market. More than ten years later, the subsidized cost has remained the same, while the market rate for the same service has declined and is now lower than the subsidized rate. In the media director's view, "Sauk is in the midst of some evolution pains at this point in time. And those evolution pains come from a variety of directions. Part of it, I shouldn't say a part, a great deal of it has to do with how the second generation of BadgerNet, the BCN and execution of BadgerNet, has in some ways frozen expectations of what the consortiums can do, has also kind of created an environment where the consortiums are not necessarily as critical, and has also created a situation where using their technology is prohibitively expensive in this region of the state." The network director expanded on this theme of a "frozen" state for network development limited by unsatisfactory telecommunication costs. The director believed that the state's plan, which subsidized one ITV classroom and one video network connection per institution, made it prohibitively expensive for the network members to grow beyond that level, an issue which also appeared in the Ojibwa Network case study.

The network director believed that the implementation and management of the

Badgernet Converged Network was improperly influenced by political connections and too-close relationships between state government and telecommunications vendors. The director asserted that this resulted in the state contracting for telecommunication services at fixed rates for too long a period in an environment of declining costs. The services were seen as profitable for the vendors, but too limited and inflexible for effective educational development, with no affordable growth path for schools. This viewpoint has also been taken by a well-known technology consultant in the state, who maintains a blog on these topics (Evans, 2007).

The Makatai University representative found dissatisfaction with another aspect of the current structure of the BadgerNet system. The university had expected to be able to initiate its own connections “on the fly” with remote locations. This would permit, for instance, a faculty member to bring a guest expert into the classroom via video on a few hours’ notice. BadgerNet’s central scheduling structure requires that member institutions request such connections through their network office. The university wanted more flexibility than the system was designed to provide. The network director described frustration with lack of support for schedule changes for evening and weekend programs.

While Makatai University and Sauk Technical College had moved some programs from the Sauk Network to Internet-based online instruction, there was relatively little mention of online learning as a technology in competition with the ITV network. The Sauk Network had conducted its own project to offer an online course management system to its members for delivery of instructional content associated with network courses. The project was ended because, as one governing board member put it, “we thought it was an intriguing question to answer, whether we as a consortium could solve

that question. We couldn't. It wasn't really our role. Others would figure out a way to do that better than we did.”

More directly in competition with the Sauk Network, at least in terms of video connectivity, is rapidly improving Internet-based videoconferencing, which might meet the needs of the private colleges for more flexible scheduling and connection. In fact, Michiwa College had moved its joint social work program with the out-of-state university to this technology when technical issues arose during the BadgerNet conversion process. I further discuss the implications of this technology for the ITV networks in Chapter 8.

School population growth. A primary purpose of the shared-courses model used by the schools in the three study networks is to pool resources to provide students with coursework that can't be provided by the resources at individual schools. But what if the school grows to the point where it can provide the resources? This was the experience of the Asawi school district, whose administrator saw the school making less and less use of the network as its growth provided resources to hire teachers for advanced courses, as well as the students to fill those courses. The high school population grew by 12% in the period from the fall of 2000 to the fall of 2008, adding 126 students. Other nearby schools were growing at rates of 15% to 28% over the eight year period (Wisconsin Department of Public Instruction, 2009).

The Asawi administrator suggested that courses with a smaller number of students worked for the school, but enrollments of 14 or more became too large for the school's ITV classroom and became more manageable if offered with a local teacher. “I think that as some of our districts grow and our student populations get greater, it becomes less financially economical for us to have those classes online as opposed to providing those

classes ourselves...it's a cost-effective program if I have 9 or 10 students that want to take the class and it's a class that the students really need...the issue comes into play especially if we're looking at a group of 14 students, which the room really cannot accommodate, or maybe 16 students. Then, you know, do we try to break it into two sections for two different sections of that or do I just provide that class in-house.”

Offering the class locally while sharing it via ITV with other schools in the Sauk Network created a resource management issue with teacher time and pay: “If I try to provide a class, or if I try to share my class, which is in house, let's say I have a Abnormal Psych class or a Shakespeare class in house, and I have 22 kids that are enrolled in it but it's really a class that the Sauk Network would take advantage and be advantageous to those students in the network. For me to offer that online, I'd have to break my class into two sections, again making it—causing me to spread my teacher thinner than I would like to have because if that teacher is going to be expanding that program, she's going to be exiting other programs, so basically I have to add another section, take that teacher's time and spread it out a little bit more than I'm really willing to do. Other than that I have to, I'm giving up another fifth of my teacher just so I can make sure that the kids on the Sauk Network can have—become active in that class... financially it makes it very difficult because when I do change that, all of a sudden in salary and benefits, it's costing me an extra \$20,000.” While other schools would compensate the district for teaching their students, the compensation in this example, in the administrator's view, did not offset the cost or justify the commitment of teacher time.

The Asawi district also found itself using fewer Sauk Technical College courses

from the network as it entered into a direct relationship with the college. Sauk Technical College hired school instructors and paid rent for school facilities to teach college courses in the school building. The program did not operate under the Youth Options policies requiring payment of tuition by the school; instead, the administrator characterized the relationship as “a wash” between the school’s facilities and the college’s instruction.

Environmental factors of personnel turnover, technology factors, state policies, and population change affected the underlying principles on which the Sauk Network was founded, resulting in the dissatisfaction and concerns raised by the quoted interviewees.

Scheduling issues. As in the Ojibwa and Menominee networks, two kinds of schedule matching issues were brought forward by Sauk Network representatives: bell schedule matching problems and calendar matching problems. The Asawi superintendent expressed frustration with the accommodations necessary for his students to take courses from another school whose schedule did not match. The only way the students could take the course was to schedule study halls before and after the course time. The superintendent felt this was more time in study hall than these higher performing students really needed, wasting some of their school time. The Anikwa guidance counselor and the network director also described difficulties encountered with the different bell schedules used at the schools and the technical college.

Lack of calendar match between schools and higher education members was described as a significant difficulty by the network director: “When psychology is taught at the college level, it’s taught as a one semester class, and it meets for fewer hours than what a normal one semester class would meet. The college starts in August well before, even though the people at the tourism industry managed to get in the state budget that

schools couldn't start until after Labor Day, that doesn't affect the colleges, where most of the kids are working in the tourism industry over the summer. It only affects these poor high school and grade school kids, who, they don't even work in the McDonalds. But they don't start school until 2-3 weeks later. Our schools now have to run well into the beautiful warm weather in mid June, when the colleges are out almost a month or so before in May. So we have calendar issues, if the colleges, the semesters don't even line up, they don't even come close to lining up.”

The bell schedule and calendar matching issues were well-known in the schools. The complications they created made the network courses less attractive to students and their counselors than other options.

Class space and policy issues. Three Sauk Network members described issues connected with class size, space, and related policies.

Michiwa College wanted to offer an introduction to religious studies course to high school students as a Youth Options program. However, the college's video classroom was too small for any of the campus sections of this course to be held there. The college might have scheduled an additional section with limited students, or used the classroom only to teach high school students, with no students in the campus classroom, but that did not fit the college's teaching resources or fiscal model.

The Asawi school administrator earlier described issues with classroom space when local enrollments exceeded 14 students. The school also had too many students who wanted to take certain Youth Options courses from Sauk Technical College. If the course was divided into two sections, then one of the sections was too small to be offered, under the college's policy requiring at least fifteen students per course. The argument

that the two sections averaged more than ten students per course was not accepted by the college administration. The network director saw this decision create mistrust between the schools and the college: “I had the bulk of the twenty kids in one section, and about 12 kids in the other section. And it rode fine up until the point at which we got into the class, and the college came back and said, we’re gonna cancel this class. And I said but, I have an average of more than 15 kids, I’ve got an average of 17 kids between the two sections. Yes, but there’s one section that doesn’t have at least 15 kids in it, therefore they cancelled the class. What do I do with those high achieving kids that were in that class? They’re back in study halls. We’ve now denied them taking French, taking Band, whatever other thing that they could have taken during that time. That ends up causing a whole nother set of ‘I’ll never trust you again’ kind of stuff. Sometimes I think the colleges and universities don’t always think that all through, and the immediate need is right in front of them, and it ends up shooting us in the foot.”

The Anikwa school wanted to give more students the opportunity to take American Sign Language. The instructor limited the aggregate number of students among the sites in the course, for classroom management reasons.

The kinds of space and policy issues encountered in setting up and operating ITV courses are not unlike those encountered in scheduling traditional classes, where room size and equipment, behavior management, enrollment policies, teacher load, and many other related issues must be resolved. Dealing with these issues in a multi-institutional, geographically diverse environment adds a layer of complexity and an element of separation to the process, an element that requires more effort. Much of that effort falls to the network director, but member institution staff must also work harder to make

things work.

Higher education institutional issues. The network director, with entrepreneurial tendencies and a focus on instructional programming, had worked on several projects with UW institutions. He stated he found them difficult to work with. “My experiences in working with the UW schools have not been really, really positive. There are so many divisions of labor and there’s so many places to hide, that even when you have a project that seems really simple, nobody seems to be able to get it done. And that isn’t necessarily limited to technology, but because technology relies on IT departments, and you have instructors, and you have people who are charged with heads of departments, and you’ve got registration, and you’ve got K-12 outreach people, and you’ve got all of these different departments, a lot of times people just give up.” Other than occasional teacher staff development courses offered by UW-Menominee, and the recent interest expressed by UW-Amowa, the network had no involvement with the University of Wisconsin System during the study period.

4. Meeting the Purposes of Member Organizations?

Responses of School District Members. The responses of the school district members were mixed regarding whether the Sauk Network met their purposes and needs. One representative stated the course sharing among the schools was the primary benefit the district had expected, and that was being provided effectively by the network. Student demand for courses was high, with more students requesting courses than there was space available. This representative noted anecdotally that while male students regularly would take Youth options courses by leaving school to drive to the college

campus, female students rarely did this; thus, the network had opened new opportunities for a group of students who might be concerned about safety when traveling. Another representative felt the expectations of the district had been met “at the lowest level” – courses were being shared among the schools, and opportunities for students had been broadened – but the difficulties of scheduling were unanticipated and reduced the overall level of satisfaction. This school followed a block bell schedule, while most of the other network members were on a more traditional eight period bell schedule. Costs versus benefits were also a consideration when the district paid more for instruction from others than it earned by offering its courses on the network. The third school representative, the Asawi administrator, devoted much of the interview to an explanation of reasons the school would be withdrawing from the Sauk Network at the end of the 2008-09 school year. These included reduced need due to school population growth with the improved ability of the school to meet its own course needs, scheduling issues affecting students, costs over benefits of course sharing, and the establishment of a different working relationship with Sauk Technical College.

Responses of higher education representatives. The higher education representatives also had mixed responses regarding the effectiveness of the Sauk Network in meeting institutional needs and expectations. The Makatai University representative, like one of the school representatives, voiced lowered expectations: “We just stopped doing the main thing that caused us to be in the consortium in the first place. And because the limited value of these individual events in having people there to help us set them up is still worth our price of membership, that’s why we’re still in our network. But our, if you could call it, I guess, our level of expectation has gone down, and so it’s

still being met.”

Michiwa College’s two interviewees had somewhat different perspectives on the effectiveness of the network. The media director, who served as the network governing board representative, felt benefits to the college were limited and probably not in line with original expectations, but the cost of membership was low, and the positives provided by working with the network director were a valuable asset gained through participation. The continuing education program manager expressed disappointment that expected enrollments in the teacher professional development courses had never materialized.

The network director, in considering Sauk Technical College’s approach and future potential use of the network, felt the college was gaining benefits by course sharing among its own campuses, and gained valuable benefit by demonstrating to its constituents – the taxpayers in its district – that it was serving high school students, assisting them in making the transition to college, saving money for them through Youth Options programming, and providing some community courses.

5. Are Initiatives Sustained?

The minutes of the Sauk Network governing board meeting for December, 2008, reported the announcement that the Asawi school district, another public school and one of the private high schools would be withdrawing from the network at the end of the 2008-09 school year (“Sauk Network”, 2008c). In a personal communication, the network director stated that Makatai University would also leave the network at that time. With just nine members remaining and a corresponding loss of revenue, the viability of

the network organization was in question (“Sauk Network” director, personal communication, January 23, 2009). At the December meeting, the director had briefly suggested the remaining network members might consider joining a nearby network that appeared to be offer a more stable future.

Even if the network were dissolved, it seemed likely the major school-higher education programming collaboration, the Youth Options programming sponsored by Sauk Technical College, would continue. The programming was not dependent on the network staff or organization; as long as the remaining member schools had access to the BadgerNet Converged Network, they would be able to access it. One of the departing public schools was the originating point for one of the several sections of American Sign Language offered by the technical college, taught by a teacher in the school. However, another teacher could be found, another means to connect the current teacher to the video network, or perhaps the college would reduce the number of available sections until a different solution was found.

The major loss if the network organization were dissolved appeared to be the program development and technical support services of the network director, a valued asset for most of the network members. The other relationships between higher education and school members were more sporadic or, in the case of Makatai University, had ended several years previously.

6. Summary of the Case

Despite a steady program of shared courses, including strong Youth Options utilization through Sauk Technical College, the Sauk Network appears at the end of this

study to have a questionable future. A knowledgeable and active network director, innovative program development, access to the statewide network for higher education members, and school interest in higher education programming contributed to its successes of the past. Environmental factors – personnel change that loosened the ties between member organizations, technology change that provided lower cost alternatives for communication, population growth that reduced the need among some members for its services—were the significant contributors to the actual and announced departures of 36% of the network membership during the study period. Other contributors included the scheduling issues found in other networks, interinstitutional and state policy issues that were characterized as “freezing” development, physical limitations of classroom facilities, and the challenges of developing collaborative programs within the structures of higher education institutions. The two private higher education institutions in the network had relatively narrowly defined programming interests and tended to view the network more as a gateway to the statewide interconnect than as a potential set of partners for collaborative programming.

Despite the network’s difficulties during the study period, some members of the Sauk Network expressed satisfaction in its role as a provider of needed instruction for their schools and a means of providing students with a pathway to higher education. It also was likely the distance education programs in most of these member organizations would continue while evolving into new forms that might integrate new technologies and rearrange relationships.

CHAPTER SEVEN

Cross-Case Analysis

In this chapter, I return to the theory-based analytic framework as a context for reviewing the three cases presented in Chapters Four, Five, and Six. I first present a matrix of the case findings, structured in relationship to the framework. Next, I compare and contrast the benefits, challenges, and sensemaking processes across the three cases, informed by applicable literature.

1. Matrix of significant case findings

Table 7.1 shows the significant benefits and challenges found in each network, aligned with the collective strategy categories of commensal and symbiotic benefits, institutional, interinstitutional, and environmental challenges. Note that the importance of a particular item often differs among the individual members of a given network. As in the case studies, I present those items having significance within the organization's functions, or of interest because they strongly influence a particular member's satisfaction with the network organization.

Through the matrix, we can identify common factors across the case studies as well as factors unique to a single case.

Table 7.1

Significant case findings in the analytic framework

		Ojibwa Network	Menominee Network	Sauk Network
Commensal Benefits	Shared Mission	Student teacher development	Student teacher development	Student teacher development
	Resource Conservation	Travel and time cost reduction	Travel and time cost reduction Access to the statewide network	Travel and time cost reduction Access to the statewide network
Symbiotic Benefits	Complementary Programs	Youth Options Staff development & adult programs Entrepreneurial strategies - Windigo	Youth Options Staff development & adult programs	Youth Options Staff development & adult programs Virtual field trips
	Unique Resource Contributions			Network Director expertise
Institutional Challenges	Institutional Traditions	Bell schedule & calendar issues	Bell schedule & calendar issues	Bell schedule & calendar issues Lack of interest due to campus focus - Michiwa
	Autonomy Needs	Institutional needs for instructors to teach on campus - UW Ojibwa and Ojibwa Tech		Desire to schedule "on the fly" - Makatai
	External Structures	Access limitations Network technology limitations Youth Options tuition cost Higher education responsiveness	Higher education responsiveness Mission ambiguity - UW Menominee System ambiguity - UW Menominee Youth options tuition cost	Higher education responsiveness Network technology limitations
Interinstitutional challenges	Excessive Structuring			
	Trust Violations		UW Menominee Departure K-12 enrollment commitment issues	
	Turf Issues			
Environmental Challenges	Technology Change	Emergence of online learning Technical difficulties during network conversion Cost of expansion	Emergence of online learning Technical difficulties during network conversion	Emergence of online learning Declining cost of competitive services Technical difficulties during network conversion
	Political Change		Personnel change	Personnel change School population growth

2. What factors make possible or encourage collaboration between higher education and schools?

Enabling policy. The existence of the state's Youth Options law as a ready-made framework for bringing technical college or university courses to the schools made this approach available in all three of the networks. The primary providers were the technical colleges, whose approach to providing this coursework was encouraged by several factors. One was a general mission-related purpose, as seen with Menominee Technical College's broad program of services to the schools in the area served by the Menominee Network. Another, as expressed by the distance education director at Ojibwa Technical College and the Sauk Network director, was the potential that students who began courses from the college during high school would continue by enrolling after graduation.

UW-Ojibwa College also had the latter goal, and was satisfied that its program of course offerings was bringing students to its campus.

An indirect form of enabling policy was the state's open enrollments law. The enactment of this law opened the possibility of students from small, resource-limited schools moving to larger schools with more offerings and opportunities. This stimulated the entrepreneurial approach of the Windigo school to promote direct access to higher education as a strength of the school.

Institutional conditions encouraging complementary programming meeting mutual goals. In each network, staff development coursework was being offered as a service to teachers and other professional staff in schools by the higher education members. The program of Michiwa College, while marketed to a statewide audience, provided a regular service to the school members of the Sauk Network. In the Ojibwa

Network, staff development was provided both by UW-Ojibwa, in close working relationship with the school members, and by several other outside institutions not closely connected with the network. In the Menominee Network, UW-Menominee was offering a program with very similar aims to that of Michiwa, with a similar statewide approach to delivery.

This complementary programming had a role in the missions of each institution. Staff improvement is an ongoing need within schools. As in Wisconsin, it is usually a requirement for continued teacher certification. For the higher education partners, teacher professional development, both initial and ongoing, is part of the mission of the University of Wisconsin System, with many campuses owing their origin to the desire for trained teachers for community schools. Technical colleges also have taken a more active role in working with teachers in Wisconsin, starting with those who teach technical subjects as a preparation for technical careers, and in some cases broadening to more general curriculum such as business and communication. Both kinds of institutions expect that better prepared teachers will provide better prepared students to enter college study in the future.

In each of the networks, programs for teacher development had been planned or carried out, utilizing the network as a way of bringing education students into remote classrooms, or connecting teachers seeking their permanent licensure with university faculty. This programming may be seen as a shared mission role between the schools and higher education, both of which have strong interests in improvement of the educational system. Each of these instances had a different purpose and produced different results. In the Ojibwa Network, a plan was in consideration, though not yet implemented, to use

network connections to carry out some of the work of the professional development teams required by the state to guide the development of early career teachers (Wisconsin Department of Public Instruction, 2008). In the Menominee Network, UW-Menominee had used the network to link preservice teachers with classrooms in inner city schools. This program went on for several years, but was not sustained, as the education department's interests changed. Michiwa College had a very similar experience with activities involving a faculty member in education and students who arranged virtual field trips for area K-12 students. The program ran for seven years, but then was not continued by the instructor.

In the Sauk Network, the active program of virtual field trips found users at both levels of education. School students were virtual viewers of heart surgery programs to generate an awareness of health science and an interest in its future. Students in health sciences at Sauk Technical College viewed the same program, but from a much more technical and professional perspective. Other virtual field trips similarly met needs for both kinds of network members.

Reinforcing environmental effects. While environmental change is a component in the challenges section of the framework, it can also affect the benefits side of the equation. The smaller school districts in the Ojibwa and Menominee networks were affected by projected downward population trends among the school age population. The ability to aggregate enrollments across multiple schools is, of course, one of the underlying principles driving distance education development. For the Windigo school, however, this effect caused the school administration to make the strategic decision to actively market higher education access. Access was not just one tool in the district's

strategy, it was the central tool for attracting students from other districts to offset the population trend and its accompanying loss of school state aid. The Ashegon school, while not taking the same marketing approach, found that higher education access could keep its students from leaving the school for other districts.

A number of interviewees across the networks noted the capabilities for reducing travel and time commitments, thus potentially saving resources for the member organizations.

Unique resource contributions. The most marked evidence of unique resources as a motivator was identified in the Sauk Network – and, rather than coming from one of the members, it was a resource of the network itself. The network director’s knowledge of technology, entrepreneurial approach to program development, and many professional connections was attractive to network members. In the case of Makatai University, this resource was one of the elements that drew the university to join the network, and to remain a member after its primary programming interest, the graduate business degree, was moved to an online format.

3. What factors prevent or limit collaboration between higher education and schools?

Calendar and schedule issues. These common significant challenges found across all networks are institutional issues, and are primarily a result of organizational tradition. The underlying concept for interactive video distance education is its “live”, synchronous nature, with participants interacting with each other and with the instructor in real time. Within this concept is the same assumption that guides activities every day in schools, colleges, and universities – that participants will be available on specific days

and at specific times for learning activities. In all of the networks studied, powerful barriers stood against this assumption – differing bell schedules and differing academic calendars.

The impacts of these differences were real and significant. Both UW-Ojibwa and UW-Menominee could not find ways to offer Youth Options courses outside of their standard bell schedules, which matched the member schools' schedules only for a very limited number of daily periods. Many of the K-12 schools could not match each others' schedules, requiring their students to give up other opportunities to participate in the extended curriculum. Further muddying the schedule matching issue was the matter of standard versus block scheduling among the schools in each network. Block scheduling is an educational innovation that permits students to study a limited number of subjects for a long period of time – typically one and one-half or two hour periods — versus the traditional schedule of a higher number of subjects studied for periods built around an hour cycle (Lewis, Dugan & Winokur, 2005). One school representative described his school's conversion of a block scheduled course to a “skinny” or traditional period course, to accommodate two students at another school. The representative questioned the impact of this action on other students in his school who might otherwise have taken the course, but now could not since it was now less well matched with the rest of the school's schedule.

Calendar differences exist between school districts, even within a small geographic area, often due to tradition or preferences found among teacher groups or the school board. Calendar differences between schools and higher education are even more significant barriers for collaborative coursework. Shared courses based on the higher

education partner's schedule typically start later in the fall and spring terms, end sooner in the spring, and may have a weeklong spring break not found in the schools. A school participating in this type of programming must find something for its students to do during the days or weeks when higher education courses are not running. On the other hand, a course based on the school calendar – to the extent a common school calendar can be found among the members – will not match the higher education partner's standard course schedule, making it difficult, if not impossible, for students on campus to take the course.

UW-Ojibwa College and Ojibwa Technical College had found a solution to the bell schedule matching by not making the courses shared with schools available to on-campus students. This approach assumes a fiscal model that permits devotion of an instructor and course to off-campus students.

Bell schedules and school calendars are powerful traditions in educational institutions. In schools, they are generally part of the collective bargaining process between the school board and its employees, and may not be unilaterally changed (Nudel, 1993). In colleges and universities, a variety of factors, from state laws governing start dates for terms to the availability of facilities for graduation exercises, have an impact on the calendar. Achieving common schedules and calendars for collaborative programs are not unachievable goals—one of Wisconsin's pioneering networks, ERVING, has a common bell schedule among its eight K-12 members—but changes in these widely and strongly held traditions require very significant investment of time and energy.

Technology change, ambiguity, and limitations. Given the communication technology underpinnings of these networks, it is perhaps not surprising that issues

relating to its functionality and possible futures were found across all three cases. All three were emerging from the BadgerNet Converged Network statewide technology change, in which the communication systems both within and between regional networks were replaced with a new system. Changed functionality, including replacement of key equipment items in every video classroom on the network, came with the upgrade. As documented in a number of the study interviews, the upgrade brought with it a period of technical problems affecting a number of programs.

One of the outcomes of this change was to drive several programs away from interactive video to other technologies. In the Menominee Network, Menominee Technical College converted its youth apprenticeship program to an online course format using the Internet. In the Sauk Network, Michiwa College took a program it shared with an out-of-state university off the regional network and began using Internet-based video to link the campuses.

Particularly in the Ojibwa and Sauk networks, questions were raised about the emergence of online learning and whether it would replace interactive video. This ambiguity had stimulated staff in all three networks to demonstrate ways both forms of educational communication could be used together in ways that improved instruction and learning. Perhaps the boldest demonstration was the Sauk Network's implementation of its own online learning system. While this project was not successful, the current environment for educational technology is certainly turbulent, in the definition used elsewhere in this study – undergoing rapid change in a closely coupled way—and cross-connected uses of new technologies will continue.

Cost/benefit and functionality limitation issues for the BadgerNet technology,

even in its recently upgraded version, emerged in the Ojibwa and Sauk networks. The issue as explained in the Ojibwa Network illustrated the Sauk Network director's assertion that an affordable path for growth was not available through BadgerNet. The subsidized single connection to a school district, with additional connections to additional classrooms or buildings at a much higher cost, prevented at least three Ojibwa Network members from expanding their distance education facilities.

Higher education responsiveness issues. In all three networks, school representatives and network directors identified challenges in working with higher education in developing collaborative programming. In each case, the issues were described as involving internal bureaucracy: difficulties in obtaining the participation of academic departments, in gaining approvals for projects at the required levels, in obtaining needed technology services.

The units in four year universities most active in planning, developing, and delivering instruction outside the traditional classroom are the continuing education or outreach units. In the best of conditions, they serve as boundary spanners in both directions, making it easier for outside organizations to access the resources of the university, while helping the university's academic programs serve community and societal needs beyond the classroom and research lab. Realistically, they are challenged to gain the attention of their internal constituencies and administrative leadership, while trying their best to deliver on the expectations of their external partners and clientele. In at least two of the University of Wisconsin institutions in this study, the latter conditions were in force. UW-Ojibwa's continuing education staff was challenged to obtain teaching staff to meet requests from the Ojibwa Network membership for Youth Options

courses and professional development, while the university chose a lesser quality technology for network connection due to costs and the absence of the state subsidy its partners enjoyed. At UW-Menominee, administrative change led to changed expectations for revenue generation and ambiguity about the activity's role, while expected enrollments did not appear, communication costs were unsubsidized, and mixed signals were also coming from UW System administration; the disengagement of the university from the network was the outcome. Administrative personnel change also contributed to the failure of UW-Amowa to become an active member of the Sauk Network. Only UW-Ojibwa College, a two year institution with a greater teaching focus in its mission than that of the four year UW campuses, appeared to have overcome institutional challenges to provide a responsive program of courses to its regional network as well as to another nearby network.

Collectively, these difficulties suggest a number of possibilities for the relationship between four year UW institutions and regional distance education networks:

- UW institutions may not be placing a high priority on involvement in regional networks
- UW institutions may lack the resources to effectively participate, either in program development or technology resources (the latter related to the unsubsidized cost of communication), or both
- UW institutions may be focusing on other technologies, such as online learning and Internet conferencing, toward serving the potential audiences in schools and communities served by regional distance education networks.

Determining which of these or other circumstances apply is beyond the scope of

this study. We can, however, conclude that significant institutional barriers remain to full UW participation in regional networks as envisioned in the 2002 Wisconsin Educational Networks Collaboration Committee report.

Environmental effects – personnel and population change. In both the Menominee and Sauk networks, the effect of the departure of the network's founders was noted by interviewees. Member organizations were less closely linked because they knew each other less well. As a result, they were seen as less likely to initiate collaborative programs or maintain commitments to existing programs.

The departure of the founding group is a well-known factor in the life cycle of many organizations (Cameron & Whetten, 1988; Ring & Van de Ven, 1994). Since ultimately it cannot be avoided, organizations must facilitate continued relationships or lose important, informal linkages that are part of the essential glue that holds the organization together.

The effects of population growth in the Sauk Network made the network simply less valuable to at least one member school. Here there are resource dependence principles at work. In the changed environment, the Asawi School became less dependent on its Sauk Network partners for resources to achieve its goals. It decided to leave the network because its resource base permitted it carry out similar programs within its own boundaries, thus gaining greater control of its programs at a cost it could now afford.

Geographic areas of the other cases in the study were not undergoing similar growth – the Menominee Network region has stable or slightly declining population, while the Ojibwa Network serves areas of slightly growing population (U.S. Census

Bureau, 2009). This environmental influence combined, of course, with other factors considered by Asawi as it made its decision regarding membership – notably, schedule issues. Population change – either growth or decline – should be recognized as potentially affecting member interest and satisfaction within distance education networks.

Youth Options tuition cost. This external structure issue was voiced by an administrator in the Ojibwa Network, and the director of the Sauk Network. The state law requirement that school districts pay the higher education tuition cost for participating students may be serving as a disincentive for school districts to actively promote higher education opportunities, even when potentially available right in the school. Despite an active program involving Ojibwa Technical College, UW-Ojibwa College, and UW-Ojibwa, a significant percentage of schools in the Ojibwa Network were not making use of Youth Options courses.

The alternative approach emerging from Sauk Technical College as described by the Asawi school administrator – to compensate the school by renting facilities and hiring their qualified teaching staff– is one creative solution, though not one that directly fits a distance education model.

A further complicating element is the significant difference in tuition costs between technical colleges and other higher education institutions. UW tuition and fees are typically 2 ½ to 3 times those of technical colleges; the difference for private institutions may be much greater. Technical college tuition rates are set by the legislature, UW rates by the UW Board of Regents under strong legislative influence, while private colleges and universities can set their own rates but ultimately must balance their budgets. These differences, of course, apply to the Youth Options program

whether students enroll in distance education classes or travel to a campus. However, the presence of the distance education option brings these differences into sharp focus for school administrators struggling to balance their own budgets.

I have used the benefit and challenge categories of the analytic framework to provide an overview of the nature of collaboration within the organizations, outlining benefits, challenges, and the underlying causes and effects. Next I will consider the effects of sensemaking and trust evident within the organizations, looking for elements that affect or help explain decision-making or action.

4. Effects of sensemaking and trust in network member relationships

The network as a collaboration, or as a utility? Perhaps the most recognizable ambiguity in the views member representatives held for the network was the nature of the fundamental service the network was providing. Was the network a bounded interorganizational entity involving people, ideas, and its own purposes, or was it a set of communication connections to be used by individual member organizations to attain their individual purposes?

UW-Menominee, Makatai University, and to some extent, Michiwa College representatives tended to see the network as the latter. All three of these organizations initially approached the network both as a gateway to the larger state, and an environment in which they could work with and provide programming to regional partners. However, the views of Menominee and Makatai changed with time. Local partnerships became less important, and the remaining focus of their limited involvement with their networks was on access to the statewide system.

The schools, on the other hand, tended to talk in terms of partnerships and program sharing: I'll provide a course, and I'll receive a course from you, and together we will help meet each other's needs. Technical college representatives also spoke of partnerships and services.

In the interview comments involving BadgerNet, there is a blurring of BadgerNet and the regional network. This is not surprising, since the communication technology of the two is completely integrated — each regional network is a subset of the full BadgerNet video network. For those not intimately involved with the technical details of this structure, it's likely difficult to understand and explain that the technical BadgerNet video system is all of the Wisconsin regional networks and the control systems that permit them to be interconnected for program sharing across classrooms, while the operational BadgerNet is contracts for telecommunication services, a contract for schedule management, and part of the duties of one or two staff members at the Wisconsin Department of Administration.

What does this mean for the way member organizations see the network? As the most recent technical upgrade fades into memory, the technology becomes more transparent. The network is becoming no longer the technology, and there is uncertainty in some places as to what the network then really is. Some members recognize and describe that the network is the interpersonal relationships and structured activities that are built around the programming. Others are not so sure, and see the network as perhaps fading away, or being supplanted by new relationships. This uncertainty may be more evident among those more loosely coupled to the network, less specific in their goals and/or needs met by the network, or with significant goals and needs beyond the network

structure.

These differences in views of the network may be amplified as they are communicated within the member organizations, from the staff who work regularly with the network to others who are involved in decision making. When decision points are reached – to initiate or not initiate a new program, to adopt a new communication technology or continue using the existing one—these differences are likely playing a role in the ways the decision participants look at the benefits of the network for the organization.

The sense of the business of the network. In all three networks, documents and interview comments showed a focus on K-12 programs as the “main business” of the network. Comments such as this, from the Ojibwa Network “Muskeg” school superintendent, characterized the views of many of the school representatives in network governance: “Besides the courses that we have offered for our school district, and those numbers are, we have several courses, each one of those courses require a collaborative approach. We share our expertise, and we have some teachers teaching classes from our site, which other sites, our members, are part of that collaboration. And the other part is that, you know, other teachers from other schools teach other classes, and we sign up for those classes. It’s kind of well understood within the Ojibwa Network that each school will step forward with a teacher or leader that will help share various expertise. If nobody steps forward to teach any of these classes, it pretty much, the purpose of having distance learning, actually the operation of that kind of dies away, fades away.” Within each network, K-12 course sharing occupied the majority of weekly hours of network activity, and the primary focus of all programming meetings.

Second in the business of networks was technical college course sharing. In the Ojibwa and Sauk networks, the technical college members were using interactive video essentially as an “intranet”, connecting and sharing courses from campus to campus in their multicampus districts. The Sauk Network director described Sauk Technical College’s program as seen by the college as its own internal network, something separate from the Sauk Network (“Sauk Network” director, personal communication, January 23, 2009). In their use of the networks for internal programming, these technical colleges appeared to view the network as a communications utility, available for their internal purposes. Menominee Technical College did not have distributed campuses to connect; its view of the network was more integrative, as a bridge between its programs and those of the schools.

The other activities of the networks—four year institution courses, school staff professional development, virtual field trips—occupied a much lower level of attention in the collective conscience of the network’s representatives, as evidenced by analysis of meeting minutes and the comments of network participants.

Consequently, the “sense of ownership” of all three networks might be described as follows: The network is for K-12 school course sharing, technical colleges also are actively engaged, and other educational partners make some use of it.

A recent statewide study of the Wisconsin Academy of Sciences, Arts, and Letters, “The Future of Farming and Rural Life in Wisconsin”, echoed this pattern in its discussion of distance education resources and their potential to improve rural life: “Wisconsin’s technical college campuses, along with K-12 school systems and CESAs, offer great capability as regional information centers. These facilities and technologies

have much potential to meet continuing education and networking needs identified in the study as vital to the well-being of agriculture and rural Wisconsin” (Wisconsin Academy of Sciences, Arts, and Letters, 2007). The University of Wisconsin, historically an active partner in rural enterprise and culture, was notably absent from this discussion in the study, as were private colleges.

The sense of the “business of the network” is, of course, not a fixed state. Organizations can and do change and refocus in response to both internal and external actions and forces, illustrating the theoretical sensemaking concept that reality is a process under constant redefinition (Weick, 2001). At this time, within these networks, and perhaps more broadly in the state as indicated in the Wisconsin Academy study, the business of the network is focused primarily on K-12 and technical college programs, with other programs more peripheral to the organization. This sense influences daily activity as well as future directions for the network, and may influence future state decisions.

The sense of technology ambiguity and change. While network members had entered into formal relational contracts in a partnership built around a specific communication technology, a number of members across the networks speculated in interviews about future directions involving potential different technologies – possibly technologies that were emerging or not yet developed, but which might be developed and useful in the near future. The collective strategy implemented through the network relationship might reduce the effects of the “turbulent”, rapidly changing environment, but it did not eliminate these effects. Having chosen one collective approach and one

technology, some member organizations continued to wonder if other options might not be the better long term choice.

In the Menominee Network, the decisions made by UW-Menominee appear to have been significantly affected by what Weick (2001) calls “salient cues”: small hints and acts that are magnified in importance in the decision-making process. These included the messages coming from UW System to the university, and the messages coming from the new administration to the continuing education unit. The effects of messages from UW System also demonstrated characteristics of institutional theory; the university chose a response to the changing environment of BadgerNet by becoming more like some of its sister universities in its use of communication technologies.

In the Sauk Network, salient cues and more overt acts of changing commitment were communicated among the network members. These are evidenced in topics discussed during network meetings and reported in the minutes. While the network offered active programs of K-12 course sharing, Youth Options courses from the technical college, and virtual field trips, some members expected different results. In one meeting where member satisfaction was discussed, the board chair raised the question, “is the supply side getting enough and what does the investing side want?” (“Sauk Network”, 2007b, p. 1). Other cues coming from the environment suggested other technology options might be possible. These influences may have contributed to a reduction in trust among some of the members. Certainly they affected thinking that led some members to consider whether other approaches would better reduce the environmental uncertainty.

Trust. The departure of UW-Menominee from the Menominee Network demonstrates loss of trust resulting from differing priorities in a loosely coupled environment. Network documents show that the university was not among the more active participants in the network's activities, while interviews with school representatives brought out desires among the schools for program offerings from the university. Meanwhile, university representatives also lost trust in the network relationship when students didn't enroll or dropped courses late, resulting in low enrollments after substantial investments had been made to make the courses available.

The university made an official explanation of its decision to end membership, but the fact that uncertainty was found among school representatives about the university's motives is a strong statement that trust levels were low. The return of the university as an associate member, primarily so it could gain access to the state network, was unlikely to improve its status among network members.

Trust within the other two networks appeared to be at a level where members could effectively connect across institutional boundaries, facilitated by the network directors.

Absence of turf and structuring issues. Given the diversity of organizations within the networks, the fact that no significant turf issues emerged from the data must be noted. This does not, of course, mean that these were not present, but they apparently were not important enough to be discussed as limitations in the network environment, or influences on members' future satisfaction. The one related comment was that of the Menominee Technical College vice president, who stated that the college intentionally did not offer certain courses while UW-Menominee was a member, since those were the

university's contribution.

Structuring issues within the network itself were also notable by their absence. There was only the concern of one member school in the Menominee Network that a practice of scheduling desired courses only at higher enrollment schools was unfair. Perhaps these issues were overshadowed by the issues of scheduling and responsiveness.

5. Summary of the cross-case analysis

Across the three case studies, enabling policies, institutional conditions that facilitated programming meeting mutual goals, and reinforcing environmental effects all encouraged collaborative activities between school and higher education members. Significant barriers across all cases included schedule and calendar issues, ambiguity in technology change, technology imitations, problems with responsiveness of four year higher education partners, and environmental effects of personnel and population change.

Unique to one case was the enabling benefit of network director expertise. In two cases, Youth Options program costs as set by state law were identified as a barrier.

Sensemaking within the networks had common elements of ambiguity regarding the network's role as an organization versus that of a technology utility, and the sense of the business of the network as a primary activity of K-12 schools, with technical colleges also very active, and other partners engaged more peripherally. The changing technology environment provided cues in two networks that may have loosened relationships. In one network, a loss of trust between a higher education member and other network members resulted in a loss of programming. Turf issues and excessive structuring issues, potential points of difficulty, were essentially absent in the data.

CHAPTER EIGHT

Study Findings and Recommendations

In this concluding chapter, I summarize the study findings as identified in the case studies and cross-case analysis. These findings constitute the grounded theory developed in the study. The findings are primarily generated from the cross-case analysis, with some selected concepts brought forward from the three network case studies. Based on these findings, I present implications for leaders in distance education organizations, and implications for future research related to organizations in distance education. I end with a discussion of potential environmental and political change that may broadly affect the subjects of the study.

1. Findings of the Study

Finding 1. Regional distance education networks in Wisconsin are loosely coupled systems of educational institutions organized around a specific communication technology. The networks studied provide valuable educational services, but significant institutional and interinstitutional challenges prevent them from achieving the higher education-school collaboration which was a key part of their original vision.

The 2007 Wisconsin Academy of Sciences, Arts and Letters report, “The Future of Farming and Rural Life in Wisconsin”, cited in Chapter 7, was an extensively developed and broadly cast review of the state of rural Wisconsin society at the midpoint

of the first decade of the 21st century. Research, regional conferences with focus groups, and a concluding statewide conference were used to gather information. The report contained two recommendations based on the vision of distance education as an important asset for Wisconsin's future. To strengthen rural education programming, the study recommended development of a seamless system of education across schools, technical colleges, public and private universities, with shared services and simplified credit transfer. A broader recommendation was to find ways to encourage school districts to share resources for cost savings; the system of regional distance education networks was described as an example. The study suggested "the vast potential of this system should be fully explored and integrated into the range of school curricula available across the state" (Wisconsin Academy of Sciences, Arts, and Letters, 2007, p.90). The vision of these broad benefits from the regional and statewide distance learning system is still alive, but the reality involves programs of limited effectiveness and some successes, along with barriers, failures, and uncertain futures.

From an interorganizational perspective, the regional distance education networks studied carried out activities important, but not near to central, to the purposes of their member organizations. As explained in the case studies, member satisfaction and engagement varied across the organizations themselves, as did what members sought, received from, and contributed to the organization. Course sharing from K-12 to K-12 members was the main business and the focus of activity in the Ojibwa and Menominee Networks, while the Sauk Network facilitated both this sharing and its virtual field trip program. The successes in developing course sharing among K-12 schools, bringing more opportunities to rural areas and aggregating numbers of learners to conserve

resources, are a notable accomplishment that deserves greater recognition. The fact that the network organizations were created, and endured, is a testimony to the state's substantial investment in distance learning, its confidence in the regional network model, and the commitments of many, many educators to improving educational access opportunities.

As a means to a seamless K-16 learning system, however, networks fall far short. The activities are too far from the main focus of the participating organizations. If that were not true, more progress would have been made on schedule and calendar issues. The current technology is too limited in capacity, held back by the number of connections and rooms available to each member.

From an educational technology perspective, the networks are focused on two-way interactive video communications, while operating in a communications environment in which the Internet in all its variations and flavors continues to evolve new modes of communication. The networks have not evolved into more general educational communication cooperatives, despite efforts such as those found in the Sauk Network to broaden services. Perhaps this is because others had staked out new territories first, or as the Sauk member put it, others could do it better.

In a number of respects, use of interactive video in these networks has gone through the educational technology innovation life cycle identified by Cuban (1986): experimentation, promises of innovative and reforming capabilities, implementation, a period of disillusionment due to limitations (often accompanied by blaming of teachers for not using it correctly), then an accommodation within the durable environment of educational practice. Then the next wave of new technologies arrives, and the cycle

begins again. Perhaps interactive video is today where instructional radio was in the 1950s, or instructional television by the early 1970s: ready to morph into something else now that its capabilities and limitations are known.

The capabilities are significant, though not necessarily new or flashy in this day and age. Being taught by a teacher on a TV screen from 50 or more miles away, or taking a video tour of a museum two states away, is no longer a special event, and that's all to the good. Where these capabilities are actively being used, they do make a difference in student learning. Particularly in the rural areas served by all three networks, where smaller schools have less to offer, they open doors and expand futures.

The institutional issues standing in the way of the vision include the traditions of schedule and calendar, higher education responsiveness and commitment of resources (primarily due to distance from institutional focus), and ambiguity of direction, particularly with technology in the UW System. Technical colleges had overcome the latter two issues; as a result, they were closer partners with schools than were any of the four year UW campuses encountered in the study, while two year UW-Ojibwa College found ways to think like a technical college and effectively partner with schools.

Interinstitutional issues in the study primarily involved the single case where loss of trust was a factor. It's important to note that institutional issues on the part of both types of partners led to the interinstitutional issue.

Finding 2. Limited new or unique collaborative higher education-school programming had developed within the environment of the networks. External policies and laws, individual innovation and initiative, and environmental factors had more influence on

collaborative activities. The network provided a means of delivery of the products of these activities.

No joint curriculum projects, joint pursuit of grants, or innovative programs were described by any of the study interviewees. While UW-Ojibwa and other members of the Ojibwa Network came close, the collaborative science project planned there ended before it began when its idea champion left UW-Ojibwa. For more than a decade, the UW System has had a collaborative PK-16 grant program for teacher development projects involving schools and campuses. There was no evidence of this program within the study networks.

The influences on the collaborative school-higher education activities found in the study included the Youth Options Law, the Wisconsin Apprenticeship Program, decreasing populations in rural schools, and the state's overall investment in communication as a means of expanding opportunities while potentially reducing costs. The individual initiative of the Sauk Network director, creating virtual field trips of interest to several types of institutions, is probably the best example of new programming emerging from the network environment, since the existence of the network made the director available. But these efforts were not sustained, as the Sauk Network increasingly was unable to retain members and participants, while partner organizations dropped out due to issues of their own.

Finding 3. The technology environment during the study period was ambiguous, drawing away interest and resources that might have contributed to greater success in collaboration. The future remains ambiguous, but change is rapidly approaching.

During the period of the study, interest was drawn in the direction of three emerging technologies: online learning, Internet multimedia, and Internet videoconferencing. The latter, which has improved in quality as bandwidth has increased, is most likely to be the future replacement for the current BadgerNet infrastructure, which uses Internet protocols on a separately leased, dedicated, high quality network. All three networks were facilitating some parallel use of Internet video instead of purchasing additional BadgerNet access. This may be a result of the cost issues raised in the Ojibwa and Sauk networks.

Internet multimedia involves graphics-and-audio presentation to multiple locations. From a pedagogical perspective, this type of instruction is at least as effective as live video instruction for most learning purposes, though usually higher in its requirements for time and resources to prepare instruction. This form of teaching is rarely used in schools at this time due to facility and supervisory issues, but is seeing growing use in higher education.

Online learning is, of course, widely adopted in all forms of higher education. It's not much used in regular public schools – the mechanisms of school and bus schedules and the traditions of the school day seem to work against it, as they work against the schedule issues of interactive video. More often, it is used to provide peripheral services, for students with health or behavioral problems, home schooled students, or those who

prefer a virtual high school. The virtual school is a business model that may already be serving those who might otherwise still attend school and take advanced courses through ITV.

It is not likely that one of these technologies will supplant the current regional distance education network technologies of dedicated video classrooms and dedicated digital connections. It is very likely that a combination of these technologies will. The question then will be whether the real network – the staff, organizations, and connections among them, the established processes and planning – will be needed. At this time, all three networks are very closely associated with the current technology. Some scheduling and program development will be needed with future technologies, but it may not need to be in a collaborative organization to be effective.

Finding 4. Limitations of the synchronous environment – time, space, and technology – must be overcome if the fundamental goals of regional distance learning networks are to be attained.

The issues across all networks and all members concerning bell schedules and calendars make it clear these are serious barriers to collaboration. The fact they continue to exist, more than fifteen years into the major implementation of interactive video in Wisconsin, demonstrates their durability and embeddedness in the institutions.

It's possible that potential learners, challenged to work with the synchronous schedule, are already opting instead to learn in an asynchronous environment. Online learning, however, is not the technology of choice for all purposes; such activities as lab

demonstrations and performances can be taught more effectively in a “live” environment.

The ability to create live, effective video events “on the fly” – as Makatai University wished – is one vision of a solution for this issue. Another is a vision of more portable, less expensive videoconferencing tools. The current dedicated video classrooms, with installed large monitors, wall mounted cameras, and an expensive control system to bring all the information together, are likely to be supplanted by equipment that is wireless, portable, user-controllable, and much less expensive. Rather than taking the students to the video classroom, every classroom will be a video classroom, connectable to other locations, single or multiple, through tools as simple to use as a Web browser.

Implicit in this vision is high quality and flexible Internet connectivity. The study contains evidence that demand for this does not match availability in Wisconsin due to cost, and assertions that the state should have done differently in procuring the current network in 2005. While it is outside the scope of this study to determine the validity of this viewpoint, the difficulties found in the Sauk Network and Ojibwa Network with the cost of adding second or third video classrooms to school districts make it evident that the flexible and scalable network described by the Wisconsin Educational Network Collaboration Committee (2002) has yet to be achieved.

Finding 5. A different funding model for Youth Options programs in Wisconsin has the potential to accelerate student degree completion using distance learning systems.

School administrators in two of the networks cited the costs of the Youth Options

program as a reason their school did not actively promote or participate in this program, even though courses could be delivered to their school building from technical colleges and universities. The relatively low use of Youth Options in the Ojibwa Network, the withdrawal of UW-Menominee for reasons that included fiscal return, and the absence of a UW partner in the Sauk Network are all evidence that this program is not working to its potential. The high usage among a small number of Ojibwa Network members and the broad use of technical college courses in the Sauk Network are evidence of the potential success that could be achieved.

Change in this program would need to be enacted by the Wisconsin Legislature. It is beyond the scope of this study to suggest specific solutions in this area. If the state seeks to help more students complete bachelor's degrees sooner, a goal of the current governor (Wisconsin, Office of the Governor, 2005), changes and perhaps investments in this area should be considered.

Finding 6. Institutional issues, particularly in four year higher education, are significant barriers to collaboration.

As changes are needed in the laws governing schools to facilitate a more seamless transition to higher education, so are changes needed in the higher education institutions to make it possible to more effectively serve these students through the transition. The issues identified in the Ojibwa and Menominee networks included difficulty in obtaining instructors, institutional priorities that took effective instructors away from distance learning programs, and an absence of the kinds of flexibility with staff, facilities, and

resources needed to work effectively with other types of institutions.

Significant efforts were made, and programs offered, by UW-Ojibwa, while UW-Ojibwa College found the flexibility to schedule instructors according to partner school bell schedules. The three technical colleges in the study all were committed to serving students in schools, with Sauk Technical College offering a consistent program of technical transfer courses, Menominee Technical College preparing to expand offerings, and Ojibwa Technical College also providing a consistent program while dealing with changed institutional priorities. Michiwa College in the Sauk Network maintained a program of school staff development, despite regular low enrollments.

Within these efforts, however, was the potential to accomplish much more, and the sense that, for the four year UWs involved, this particular function was low on the list of the university's priorities. Changes to strategic directions and resources would have to happen if these universities were to be engaged in the way envisioned in the WENCC business plan.

Traditional universities have been taking new approaches to providing distance education services in recent years, with an eye to the market and increasing competition for learners. While these efforts have raised the administrative attention to distance education within institutions, change has been more incremental than transformative (Hanna, 2003). The experience within the distance learning networks in the study indicates that more significant changes may be needed for effective involvement of universities in collaborative distance education organizations.

2. Implications of the Study

In this section, I share implications developed from the study findings. Recommendations are provided for two groups: leaders in institutions and organizations engaged in distance education, and future researchers of distance education administration.

Implications for Distance Education Leadership

Work on the boundary issues. The challenges to true collaborative partnership in the networks studied were found at the boundaries—between the members and the network organization, between the higher education continuing education staffs and their institutions, and occasionally between the members themselves. This was particularly evident in the Sauk and Menominee networks, where loosening levels of commitment combined with the sense that, despite best efforts, the network did not deliver on its promise.

Can focused efforts overcome the boundary issues? This may have been the case in the Ojibwa Network, where interviewees mentioned boundary-spanning efforts by the network staff and the staffs of the two UW members. The combination of this connectedness and the relative geographic isolation of the network seemed to be countering the kinds of forces that were pulling members away from the Sauk Network.

More institutional preparation is needed for the changing virtual world of teaching and learning. Both schools and higher education units were experimenting and learning as they developed their distance education programs. Both still had a great deal to learn to achieve the level of program effectiveness they had long since established in their traditional academic programs. The implementation of interactive video technology was a disruptive factor in the regular business of both kinds of institutions. Despite ten to fifteen years of experience among the study networks, it remained closer to the boundary than to the core of the individual organizations.

While idea champions were mentioned among many members across the networks, their departure in a number of places had clearly left those members without strong advocates to lead the learning process of the organization in integrating the new system.

Geography may not be as important as mutual goals and mutual schedules. The framework in which Wisconsin networks were created, including those studied, was one that defined networks as regional, and that definition was used to set the boundaries of this study. In fact, there have been several efforts to create non-geographic networks in the state. Most notable among these was an initiative, since ended, to interconnect private colleges across the state, regardless of location, for collaborative course offerings. Given the difficulty of changing bell schedules and calendars, it may make more sense to foster collaboration among schools with matching schedules, wherever they may be located in the state. This pattern appeared as subgroups in the Ojibwa Network schedule, and there is no technical reason why it could not extend across the existing network

boundaries.

Mutual goals and needs may also be a framework around which collaborations form. WADEN offers a statewide forum for course exchange, and in each of the study networks, there were examples of courses being offered to one or two far distant schools in other networks. These relationships might be one-time, perhaps reflecting the needs of one or two students, or they might recur each year.

Michiwa College also reported a kind of “virtual cohort” that formed in its school staff development programs: one or two teachers in a school would learn about the courses, request them at their school, then a group of students would form for several years, until all of the available offerings had been taken by most of the students.

In the virtual world, floating and flexible relationships, based on needs and interests, are the norm. Perhaps the most important collaborative relationships in distance education will continue to change in this direction.

Given the right environment, more schools might benefit from the Windigo School marketing strategy. However, its broader use and long term viability are unproven. The Windigo School’s strategy of higher education access as a marketing tool was a unique finding within the study. Use of this approach required that colleges and universities be at a physical distance, so that driving to campus was not a convenient option. It also would be attractive only to those students who wanted higher education opportunities strongly enough to change high school enrollment to a district offering them. For at least one small, rural district, it proved successful, both financially and in providing challenging learning for high school seniors. Whether other school districts

could successfully implement it is unknown. The Windigo guidance counselor, when encountered at a meeting in the fall of 2008, mentioned his district was now getting some questions from the school board about the high expenses for Youth Options courses, and he was unsure about future directions.

Implications for Future Research

Astley and Fombrun's collective strategy in retrospect. The collective strategy theory of W. Graham Astley and Charles J. Fombrun, which I chose as a central part of my theoretical framework, is not frequently applied in interorganizational study. However, among the available interorganizational theories, it had features offering a good fit with the nonprofit, meta-organization environment I would be studying.

Throughout the study, I was challenged to consider whether I was studying like (commensal) organizations or unlike (symbiotic) organizations, and to what extent the distinction would make a difference in my analysis. Ultimately I concluded my preliminary viewpoint was closer to correct: given the different funding sources, governance bodies, and missions of the organizations in the study, higher education institutions and schools, from this perspective, are more different than alike. The challenges to collaboration among these organizations tend to illustrate these differences, demonstrated in their differing motivations and the strong institutional influences that pulled some participants in both categories away from the network environment.

Astley and Fombrun provided greater guidance in the sense that the study recognizes that the partners have collaborative motivations originating from their

nonprofit environment, as well as, in some cases, competitive motivations emerging from their interest in the welfare of their institutions. The interview participants showed commitment to the *concept* of collaboration throughout, in a few cases demonstrating a commitment that went beyond the interests of their individual institutions.

The concepts of this theory deserve further attention as tools for examination of interorganizational relationships in the nonprofit environment.

Further research opportunities in distance education. Perhaps the major unanswered question generated by this study is, “What really defines a successful collaboration in a distance education network?” For the purposes of this study, I sought to approximate this answer by asking the question, “Are these initiatives sustained?” Certainly those initiatives that were not sustained were not long-term successes, although they may have had short-term outcomes that made a real difference to learners. But what constitutes a successful collaboration is more likely to be answered by a combination of quantitative and qualitative data: enrollment trends, student performance, longer term affective results such as career choices or pursuit of advanced degrees, integration of activities into the regular business of the members. A study to address this question could be designed as a followup to my research as well as that of Johnson (1996), who identified critical factors for successful implementation of distance learning in K-12 schools.

3. Concluding Thoughts

One of the fundamental principles in the effective use of educational technology is that it's not the technology, but rather how it's used, that determines success or failure. Technology is not sufficient to create desired change in learning outcomes; practices and processes must change along with its implementation (Heinich et al, 1999). Technology can create a great deal of excitement with new and different ways to communicate, but when the shine is off the new system, the day-to-day use and the outcomes it produces are what determine its value in the long run. The advocates who brought interactive video distance education to Wisconsin knew this, and were optimistic that implementation would arrive hand-in-hand with new approaches to teaching and new organizational environments.

Unfortunately, this has not happened. As the study makes evident, the networks exist with a foot in both worlds, the traditional classroom and the virtual learning environment. The institutional and interinstitutional barriers that prevent implementation of the 2002 WENCC vision have been durable and seem unlikely to go away soon. It's much more likely that the technology will change.

It's important to recognize the regional distance education network as something unique that has not previously existed, spanning boundaries that have not previously been spanned. It's already clear that present and future generations of students will be much less patient with those boundaries and seams than students of the past. They will have much less time and energy to devote to the mechanisms of obtaining knowledge, and less loyalty to the way things have been done before.

The regional distance education network has gone farther than any other initiative

toward establishing a PK-16 learning world. As such, it is a great potential asset to education, but its limitations and barriers prevent the kinds of change its founders thought it might have engendered. Ultimately, too, its narrow focus on a single method of communication is a limitation in the rapidly emerging multimedia world. The opportunity appears to have been lost to evolve into more general educational technology cooperatives, so perhaps networks will serve as a transition to broader cooperative roles by CESAs, their more generic partners. They may also endure as niche services, or simply dissolve into one or more of their members' structures.

It also seems increasingly probable that a different business model will take the stage and meet the same needs, perhaps ultimately moving these pioneering organizations aside. While writing the final case study, I noticed a TV commercial for the Insight School of Wisconsin (www.insightwi.net). Exploring the school's website, I learned Insight was a statewide virtual Internet school affiliated with a public school district not far from my home. Tuition-free, presumably fully or primarily funded through state aids, the school sought to attract students wanting something different from what their local high school could offer. Like the regional distance education networks, it had an expanded curriculum and more options than were likely at many small to medium schools. And it had a seamless path to higher education – the University of Phoenix was the owner of the online component of the school, and qualified students could begin taking Phoenix's online college courses whenever they were ready.

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APPENDIX A – LIST OF INTERVIEWS

- 2006a Ojibwa network director
- 2006b Ojibwa Ashegon K-12 Superintendent
- 2006c UW-Ojibwa continuing education staff
- 2006d UW-Ojibwa continuing education staff 2
- 2006e UW-Menominee continuing education director

- 2007a Menominee network director
- 2007b Ojibwa Muskeg K-12 Superintendent
- 2007c Ojibwa Windigo K-12 guidance counselor

- 2008a Menominee Neconish K-12 Guidance Counselor
- 2008b Menominee Watasa K-12 Guidance Counselor
- 2008c Sauk network director pt. 1
- 2008d Menominee Tech College Library Staff
- 2008e Menominee Waukau K-12 superintendent
- 2008f Ojibwa Windigo K-12 Superintendent
- 2008g Sauk network director pt. 2
- 2008h Ojibwa network director followup
- 2008i UW-Ojibwa College assistant dean
- 2008j Ojibwa Tech College DE staff
- 2008k Menominee Tech College VP for Learning
- 2008l Sauk Michiwa College media services director
- 2008m Sauk Makatai University library/learning resources director
- 2008n Sauk Anikwa K-12 guidance counselor

- 2009a Sauk Neniwa K-12 administrator
- 2009b Sauk Michiwa College adult education staff
- 2009c Sauk Asawi K-12 administrator

APPENDIX B – LIST OF DOCUMENTS

Ojibwa Network

Annual administrator meeting minutes, April 8th, 2005
Annual administrator meeting minutes, April 21st, 2006
Annual goals, 2005-06
Annual goals, 2006-07
Annual goals, 2007-08
Annual report, 2005-06
Annual report, 2006-07
Annual report, 2007-08
Course schedule, 2006-07
Course schedule, 2007-08
Course schedule, 2008-09
Evening course schedule, 2007-08
Governing structure, 2006
Governing board minutes, March 14th, 2005
Governing board minutes, January 13th, 2006
Governing board minutes, March 8th, 2006
Governing board minutes, September 8th, 2006
Governing board minutes, November 10th, 2006
Governing board minutes, September 14th, 2007
Governing board minutes, November 9th, 2007
Newsletter, September 2007
Newsletter, January 2008
Newsletter, May 2008
Newsletter, September 2008
Policy and procedures handbook, 2007

Menominee Network

Course schedule, 2006-07
Course schedule, 2007-08
Course schedule, 2008-09
Governing board minutes, February 25th, 2005
Governing board minutes, April 20th, 2005
Governing board minutes, September 14th, 2005
Governing board minutes, November 18th, 2005
Governing board minutes, January 25th, 2006
Governing board minutes, March 15th, 2006
Governing board minutes, April 19th, 2006
Governing board minutes, September 13th, 2006
Governing board minutes, January 24th, 2007

Governing board minutes, April 18th, 2007
Governing board minutes, September 12th, 2007

Sauk Network

Annual joint meeting minutes, May 22nd, 2006
Annual joint meeting minutes, May 21st, 2007
Annual joint meeting minutes, May 19th, 2008
Course schedule, 2006-07
Course schedule, 2007-08
Course schedule, 2008-09
Executive board meeting minutes, February 6th, 2006
Executive board meeting minutes, September 25th, 2006
Executive board meeting minutes, April 14th, 2007
Executive board meeting minutes, September 24th, 2007
Executive board meeting minutes, February 4th, 2008
Executive board meeting minutes, April 14th, 2008
Executive board meeting minutes, December 8th, 2008
Joint meeting minutes, December 11th, 2006
Joint meeting minutes, December 10th, 2007
Long range plan, 2004
Long range plan update, 2005
Long range plan update, 2006
Programming meeting summary, October 6th, 2008

APPENDIX C – INTERVIEW INSTRUMENT

The A, B, C, S codes index the questions to the corresponding elements of the theoretical framework. Those questions marked P were used as followup probes where needed, and not asked of all interviewees.

Interview Questions for Institutional Representatives

0 (Addressing Role and Experience of Interviewee)

0.1. What is your position title and what are your responsibilities? How long have you been in your current position?

0.2. What is your role in developing or administering distance education programs or activities for your organization?

0.3. How have you been involved in developing your regional distance education network? How long have you been involved in the network's activities? What roles or responsibilities have you had within the network organization?

1 (Addressing Research Sub-Question 2: What factors contribute to the development of these initiatives?)

How did your organization come to participate in the regional distance education network? (A1-3, S)

P Who was involved in the decision to participate? (C3, S)

P What kinds of benefits were expected from participation? Were there any initial concerns? (A1-3, C2)

P What are some of the most important benefits that have actually occurred?

P What are the most important reasons for an organization like yours to participate in this kind of network? What reasons are there to not participate? (A1-3, C1-3)

- 2 **(Addressing Research Sub-Question 1:** To what extent do new or expanded collaborative initiatives result from the participation of educational institutions in regional distance education networks?)

How have you been involved in collaborative initiatives? (C4)

Has collaboration between your organization and (higher education or K-12) members changed in the past five years? Have initiatives been added or expanded, or have they been reduced or ceased? (C4)

Tell me about some of your most recent efforts to develop collaborative initiatives. (C4)

Has your participation in the regional distance education network affected any of these initiatives? How? (C4)

- 3 **(Addressing Research Sub-Question 3:** What factors limit or prevent development of these initiatives?)

P Has your organization found limitations in using the distance education network? Have you observed any limitations for other members?

(B1-6)

- 4 **(Addressing Research Sub-Question 4:** To what extent do these initiatives meet the purposes of member organizations?)

P Has your organization achieved the results expected from your participation in the distance education network? (A1-3)

P Have there been other, unanticipated results from your participation? (A1-3)

5 (Addressing Research Sub-Question 5: Are these initiatives sustained?)

5.1 Do you see future changes in your collaboration with (higher education or K-12) members? (C1-4)

P Why do you expect this to happen?

5.2 Do you think your organization's experience in your distance education network has been typical, or have there been special factors to be considered? (S)

Interview Questions for Network Directors

0 (Addressing Role and Experience of Interviewee)

0.1. What is your position title and what are your responsibilities? How long have you been in your current position?

0.2. What is your role in developing or administering distance education programs or activities for your network?

0.3. What has been your involvement in developing your regional distance education network? How long have you been involved in the network's activities? What roles or responsibilities have you had within the network organization?

1 (Addressing Research Sub-Question 1: To what extent do new or expanded collaborative initiatives result from the participation of educational institutions in regional distance education networks?)

1.1 How have you been involved in collaborative initiatives in your network?

(C4)

1.2 Has collaboration between higher education and K-12 members changed in the past five years? Have initiatives been added or expanded, or have they been reduced or ceased? (C4)

P Tell me about some of the most recent efforts to develop collaborative initiatives. (C4)

2 (**Addressing Research Sub-Question 2:** What factors contribute to the development of these initiatives?)

P What reasons might there be for the higher education and K-12 members of your network to collaborate in their distance education programs? (A1-3)

3 (**Addressing Research Sub-Question 3:** What factors limit or prevent development of these initiatives?)

P What reasons might there be for the higher education and K-12 members of your network to not collaborate in their distance education programs? (B4-6)

P What reasons might there be for collaborative efforts involving higher education and K-12 members to not succeed? (B4-6)

4 (**Addressing Research Sub-Question 4:** To what extent do these initiatives meet the purposes of member organizations?)

4.1 In what ways do the activities of your network affect the K-12 members? The four year higher education members? (A1-3)

5 (Addressing Research Sub-Question 5: Are these initiatives sustained?)

5.1 P Are there any longer term relationships between the higher education and K-12 members of your network? What kinds? (C4)

APPENDIX D - CONSENT FORM

CONSENT FORM

Higher Education-School Relationships in Regional Distance Education Networks

You are invited to be in a research study of relationships between organizations in regional distance education networks. You were selected as a possible participant because of your work with your regional distance education network. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Peter Nordgren, assistant professor of library science at the University of Wisconsin-Superior and doctoral student in Educational Policy and Administration at the University of Minnesota.

Background Information

The purpose of this study is to find out how well regional distance education networks serve as a means to develop and sustain collaborative initiatives that meet the purposes of higher education and K-12 members.

Procedures

If you agree to be in this study, I would ask you to do the following things:

Participate in an individual interview to discuss your work with your regional distance education network. The interview will take approximately one hour to complete. I will record the interview for transcription and data analysis.

Participate, if requested, in one or more follow-up interviews to further explore topics related to your regional distance education network.

Risks and Benefits of being in the Study

The primary risk to participation in the study is the chance of your identification as a participant, and any implications this may have in your professional work. The study is designed to prevent you from being identified as a participant.

The benefits to participation in this study are in contributing to the improvement of practice in distance education.

Confidentiality

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. I will retain the recordings I make of your interview(s) and will use them only for my own reference and research. They will be destroyed two years after the completion of the study

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or the University of Wisconsin-Superior. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions

The study is being conducted by Peter Nordgren. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at the University of Wisconsin-Superior, PO Box 2000, Superior, Wisconsin 54880, 715-394-8528, pnordgre@uwsuper.edu. You may also contact his research advisor, Dr. Karen Seashore, 612-626-8971, klouis@umn.edu.

If you have any questions or concerns regarding this study, or how you were treated in the study, and would like to talk to someone other than the researcher, **you are encouraged** to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650; or the Provost, University of Wisconsin-Superior, PO Box 2000, Superior, Wisconsin 54880; (715) 394-8449.

This project has been approved by the University of Minnesota-Twin Cities Institutional Review Board for the Protection of Human Subjects, protocol # 0509E74430, and the UW-Superior Institutional Review Board for the Protection of Human Subjects, protocol # 182 and #290.

You will be given a copy of this information to keep for your records.

Statement of Consent

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____